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May-June-July 2015

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## Main feature

Look beyond the resorts and pristine beaches and you'll find some terrific riding in the Whitsundays—both in the dense mainland rainforest and on South Molle Island.



COVER: Damian Breach slays the trails on sunset, high above Wellington, NZ.

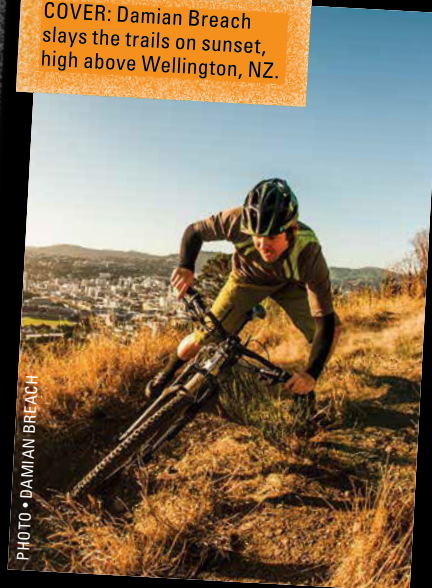
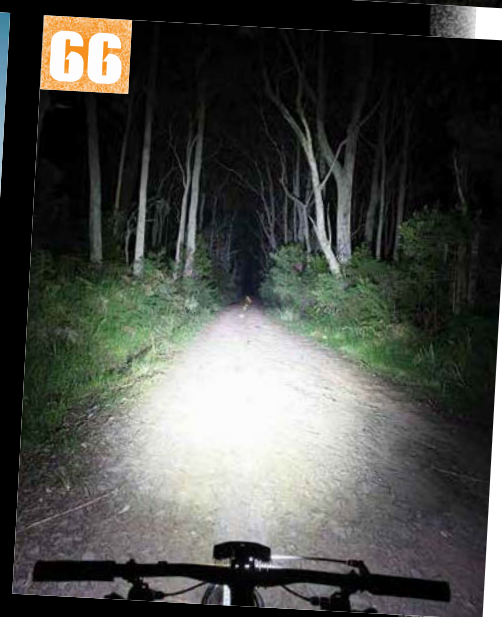


PHOTO: DAMIAN BREACH





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## A fresh Perspective

**B**y now you've noticed that the days are getting shorter. Daylight savings has long gone and warm summery days are a fading memory. Whilst few will really celebrate winter, we really do have it good in Australia. Sure some locales get pretty brisk but it doesn't compare to the harshness of a European or northern US winter.

### LIGHT THE WAY

Rug up a bit and the only thing that's likely to dampen your ride plan is the lack of daylight hours. Luckily there's no shortage of super-bright LED lights on the market. This issue sees us putting 11 different LED light sets to the test. Get a set that suits your budget and you'll have no excuse for staying inside ... aside from work, family and other life commitments that is, but hey, who's going notice if you disappear for a quick blast!

If you've never tried it, night riding brings a whole new element to your riding experience. Tedious fire trails all of a sudden hold some challenge and frequently ridden trails become new again. Hook up with your buddies for a regular mid-week night ride and you'll have a ball—guaranteed!

And speaking of gaining a new perspective, you'll notice that *Mountain Biking Australia* has taken on a whole new look. It's been six years since our last redesign, so we thought it was time for a refresh. One of the goals with this was to improve legibility, so let us know what you think. I'd like to offer a big thankyou to Ana Heraud for her work on the new design.

While the look may be new, our content holds true. We'll continue to deliver solid technical articles, honest product reviews and information that can enhance your time on the MTB.

Hope you enjoy it!

*J Hardwick*



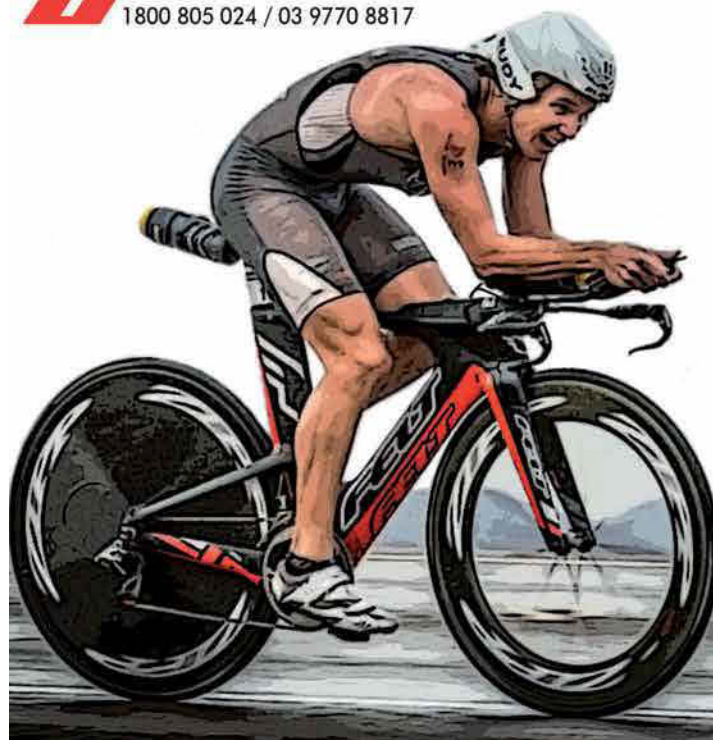
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# Mud clearance

## Winning letter

### DRAWN TO TATHRA

Recently I was lucky enough to visit Tathra in southern NSW. Prior to heading there I was researching activities available and found the area has some highly rated MTB trails.

Needless to say I was more than a little keen to check them out. Upon arrival I was straight down to the local shop, Surf and Ride, to see if I could get a map and a run down on the trails. The shop attendant seemed to share my enthusiasm and while rubbing her hands together told me I was in for a treat. I rushed back to out accommodation and while the others unpacked, I kitted up and headed out.

The trails didn't disappoint; expertly groomed, fully signposted and absolutely epic. I had some of the best fun I've ever had on two wheels and it was all only two minutes from town.

The whole place was set up so well and it was obvious that a massive amount of work had gone into creating one of the most enjoyable MTB parks getting around. I take my hat off to the local MTB crew. They've put a huge amount of time and effort in for the benefit others who visit the area. I'm sure that the local riders and their economy also benefits from having such a top-class attraction in town.

I'm really hopeful that similar



areas can take shape in and around Melbourne. It'd be great to see the development of places like Lysterfield and the proposed Warburton MTB Park. Unsure if there's still funding set aside for this, but after witnessing what park like this can do, I think it would be a shame if it weren't to go ahead.

If you get a chance, drop past Tathra and experience the trails for yourself—I highly recommend it.

Tom Robertson

*Thanks for sharing Tom. We visit Tathra regularly. While there are plenty of nice spots on the NSW South Coast, the trails always draw us to Tathra—they are a real asset to the community.*

Ed

### TRAILSIDE TUBELESS REPAIRS

Many thanks for your great article about repairing tubeless tyres. There's nothing so upsetting as wrecking your favourite tyre when it's still new.

I'd like to offer another simple and effective repair; it's worked really well for me and you can even do on the trail.

Inside every happy tubeless tyre you'll find pieces of dried and semi-dried sealant. This stuff is amazing for plugging holes that refuse to seal. Just pull some of this chewing gum off and force it through the hole from the inside. I use an allen key from my multi-tool allen key to poke the dried stringy material through the hole.

Pull it through leaving a lumpy bit snug up against the inner tyre surface. Now refit the tyre and pump it up whilst allowing the remaining sealant to pool around the puncture. The wad will stem the airflow and allow the sealant to do its job.

I've fixed several tyres this way. Glass cuts on the tread surface, tears on the sidewall and even got a rim pinch to seal and never leak again. Spread the word!

Ian Craven

Dunedin, New Zealand

*Thanks Ian, I can see how this would assist with mid-sized punctures that are reluctant to seal. As for the larger cuts, break out the sewing kit as per the article!*

Ed

### HAPPY CAMPER

I have been reading through your February/March/April edition and absolutely love it. It is a great magazine that provides a lot of useful information. My favourite section is the 'how to ride' section—it provides so many great tips for when I hit the trails.

Keep up the great work!

Matson Waring

## Speak out and win!

Voice your opinions and you could win a Finish Line Care Bucket valued at \$99.99. It contains a range of essential bike care products. There's a one-litre spray bottle of Super Bike Wash, Multi-Degreaser and a Grunge Brush. Once your bike is sparkling, you can refresh the drivetrain with your choice of Finish Line lube; either Dry Lube to minimise dirt build-up or the

long-lasting Wet Lube. The kit even includes a handy Finish Line maintenance guide and the container is perfect for bike washing.

So write in and you could win this great bike-care prize!

E-mail your letters to

[john@bicyclingaustralia.com](mailto:john@bicyclingaustralia.com)







# "A flat won't slow me down"

Dave Wiens | 6X Leadville Champion | Topeak Ergon Racing Team



## AirBooster Race Pod

Dave Wiens won't let a flat tire slow him down. The new **AirBooster Race Pod** is an incredibly compact CO<sub>2</sub> inflation kit complete with AirBooster head, two tire levers and two 16g cartridges – weighing in at only 8 oz. A unique mounting module keeps the AirBooster Race Pod attached to your seatpost and ready to take on the flats.



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Attaches to  
seatpost with  
mounting module.  
Neoprene cover  
and strap for  
securing extra  
tube »





## CHAINRING SHUFFLE

**J**ust wondering if an 11-speed chainring (like you'd get on a SRAM X01 crankset) is compatible with a 1x10 setup? I know the 11-speed chains are narrower than 10, but wasn't sure if an 11-speed chain ring would play nicely with a 10-speed chain.

I've got an old and heavy Shimano Deore triple crank that's converted to 1x10 using a Race Face Narrow Wide ring. Of late I've been eyeing off some deals on SRAM 1x11 crank sets—just need to know if they'll fit.

Mike

*Width wise there's very little difference between a 10 and an 11-speed chain. Externally the 10-speed chain is around 0.2mm wider but in between the plates they are usually the same width. As the inner dimension is the important one when it comes to chainrings, you should be able to run a 10 or 11-speed chain on the same chainring.*

*If your particular 10-speed chain did happen to have a broader internal width between the plates, it would still work on a narrower chainring—you'd only hit issues going the other way around with a narrow chain on a wider cog. Some will probably argue that a wide/narrow style chainring that's been optimised for 11-speed won't hold a 10-speed chain as well. My feeling is that the < 0.2mm difference in chain width won't make a noticeable difference.*

*Oh, and SRAM GXP cranks require a different bottom bracket to Shimano and Race Face cranks. The left side bearing on the SRAM system has a smaller inner diameter, so make sure the cranks are supplied with a matching bottom bracket too.*

Ed.

## BEACH COMBING

Recently I took my fatbike down to St Kilda for a ride along the beach and halfway through my ride I thought to myself, 'hang on, is this actually legal?' I considered emailing the council but don't really want to bring it to their attention.

Do you know anything about the laws and fatbikes on the sand?

Rowan Blair

*In most situations a pushbike is viewed as a vehicle in the eyes of the law, and you're not allowed to drive your car on St Kilda beach.*

*If you ask council there's a strong chance that the answer will be 'no, you're not allowed to ride there.' And once it has been brought to their attention, they'll start policing it.*

*As it stands, beach riding on fatbikes is new territory and there are no specific rules pertaining to it. It's not unlike mountain biking in the late '80s and early '90s. Back then we were quite a novelty on the trails and got away with a lot as a result.*

*I'd suggest that you use common sense, don't offend or annoy anybody on the beach and enjoy the freedom while it lasts!*

Ed

## GETTING STARTED

I'm looking to get into mountain bike events like the Cape to Cape stage race and want to get a dual suspension

bike for under \$2,000. Any suggestions?

I live in the Pilbara, so there are no bike shops around here. I'm trying to do research on the net but it's hard to know what to look for and what's good for the price. I currently have a Giant Iguana hardtail. It's been a good bike but it's now time to update.

Scott

*You'll be pretty safe if you stick with the major brands like Giant, Specialized, Trek, Merida, Apollo and so on. They all have really competitive offerings. Unless you've got very specific needs and wants, you're probably best off running with the brand or brands that are sold by the store that's most accessible to you. Obviously there are no locally based stores where you are but you'll have to buy it from somewhere—perhaps a trip to the 'big smoke' is in order.*

*If you can pick and choose, go to a store that specialises in mountain bikes rather than one that primarily deals with road bikes*

*and just moves a few MTBs on the side. Staff who are keen mountain bikers should be able to offer good advice and get you onto an appropriately sized bike.*

*At an 'entry level' price point, you'll probably be looking at a 100mm travel dually and that should be fine for the use that you've described. Full suspension bikes that sell for less than \$2,000 won't be light however, but they can be more fun to ride than a hardtail if your trails are rough.*

*If you want to get a little serious with your racing, a hardtail may still be worth considering. It'll be lighter and have better quality running gear for the same dollar value. Many marathon races are run on relatively smooth and fire trail heavy courses—this could make a hardtail the better option if you want to stick below \$2,000 and still be competitive in this style of event.*

*Hope that helps in some way.*

Ed.



PHOTO: DAVID WILLIAMS





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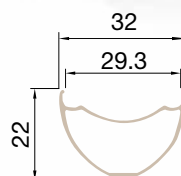
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## NEW SIZES & STANDARDS

**FATBIKES** have been a growth area but the next big trend may be towards semi-fat tyres—more specifically the 27.5+ size. Based on the middle wheel size, they will run 3.0 to 3.5 inch tyres along with appropriately wide rims.

What's the point? True fatbikes are designed to excel where flotation is the overriding goal; soft sand and snow. The 27.5+ bikes are likely to serve as regular trail bikes whilst still offering enhanced traction and flotation. Its exact use remains somewhat up in the air but suspension manufacturers Fox and RockShox have announced that they'll be making 27.5+ compatible forks, and to make space for the wider rims and tyres, we are now seeing more new axle standards.

### 2016 FOX

Fox will be offering a 110-150mm travel fork that specifically caters to the 27.5+ market. It employs a 110mm wide, 15mm diameter thru-axle. This allows the rotor and hub flanges to be moved outboard by 5mm, providing better triangulation and a stiffer wheel. It also means that you'll need a special 110x15 front hub and the different rotor position means you can't just space the end caps 5mm further out on a current 100x15 hub. Apparently this new fork will clear tyres up to 3.25 inches wide.

Aside from being 27.5+ compatible, the fork also offers a glimpse of the features that we can expect to see on their regular fork line. This fork is based on the Float 34 platform and it features an updated air spring and a new version of their Fit damper cartridge.



### SRAM

RockShox is also introducing a 110x15mm front axle with 5mm wider spacing on the rotor and hub flanges—SRAM calls it 'Boost' and like the Fox setup it'll require a special front hub. While Fox has only announced the 110x15 system for their 27.5+ fork, RockShox will employ their Boost hub to increase the wheel stiffness on



a number of regular 27.5 and 29er forks. The Sid, Reba and Pike will all be offered in a Boost version (27.5 and 29 inch only). Additionally, there will also be a Boost equipped Pike that will cater to the emerging semi-fat 27.5+ market.

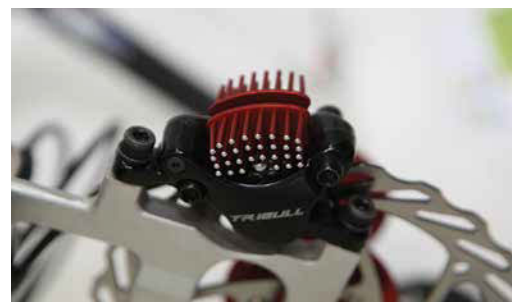
To complement the wider front end, SRAM will be producing a new rear hub and drivetrain system dubbed Boost 148. The axle will be 3mm wider on either side when compared to the existing 142mm axle standard. As with the front end, the wider spoke flange spacing is aimed at producing a stiffer wheel. As everything is pushed a fraction further out from the centre line of the frame, Boost 148 also requires updated cranks to suit a wider 52mm chain line.



**2000** prototypes thrashed. **200** products conceived. **500,000** yards of fabric cut and stitched. **FORTY** editions of our catalogue produced. **800** races sponsored. **\$200,000** dispensed from our Slush Fund for local trails. A **THOUSAND** kilos of coffee beans ground, espressoed and imbibed. **MILLIONS** of miles yet to ride. **Pedal on**



## TAIPEI SHOW



**THE** Taipei International Cycle Show is our first opportunity to see the latest, most innovative and sometimes quirky bike gear. Here's a quick snapshot of what we saw.

**ABOVE:** It looks like the Garmin, Magellan and Brighton brands will have some extra competition soon, as Lezyne is getting into the cycling GPS market. They'll even have some Bluetooth enabled models.

**RIGHT:** Here's a look at what we can expect to see on the new 27.5+ bikes when they reach production; a 3.0 tyre caller the Bridger from WTB. They will have a number of extra wide 27.5 tyres on offer.



**ABOVE LEFT:** It's taken a while to reach the market but it appears Schwalbe's Pro Core system may finally be ready. It uses an inflatable inner core that holds the tyre beads to prevent burping and it also protects the rim from trail damage. Pro Core is meant to allow the use of really low tyre pressures.

**ABOVE:** In addition to making their own brakes, Taiwanese brand Tribull produces cool looking air-cooled pads for Shimano brakes.

**LEFT:** You may have noticed that a number of road bikes are now coming with disc brakes. Well now they may be latching onto another bit of MTB technology. KS was showing off their latest design; a super light 25mm dropper post that's designed for road and cyclocross applications.



Photo: Grant Stirling

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## CONE HEADS

Retailing for \$119, the O'Neal Orbiter II is well priced for a dedicated all-mountain style MTB helmet. While the pricing is sharp the features list is quite comprehensive. It's offered in three shell sizes (from 51 to 64cm) and uses a rear retention system to provide a good fit. O'Neal employs 'Cone Head' construction which is said to be better at absorbing and dispersing impacts. A magnetic buckle allows single handed fastening and it also has an integrated POV camera mount. There are plenty of vents too and the 320g claimed weight is on par with most MTB helmets that offer additional head coverage.

**Cassons (02) 8882 1900 [www.cassons.com.au](http://www.cassons.com.au)**



## ADDED PROTECTION

With all the vibration, scuffing and mud, saddle bags lead a tough life when fitted to a mountain bike. While it's not specifically designed for MTB use, the Pro Mini saddle bag features a sturdy moulded casing with water resistant zippers and wide reinforced straps.

Its compact size – there's only just enough room inside for a tightly rolled tube and a few patches – also helps by ensuring there's less mass to swing around when the trail gets rough. The pack itself weighs 97g and sells for around \$50.

**Shimano Australia**

**(02) 9526 7799**

**[www.shimano.com.au](http://www.shimano.com.au)**



## RIDE ALL DAY!

With 12 litres of internal capacity, the BBB Maratour pack is large enough to handle all the gear you're likely to need for a full day ride. If more space is required, bulky items like jackets can be stowed under the full-length external bungee cord. To keep your load in place, the Maratour uses padded shoulder straps along with waist and sternum straps. While it isn't supplied with a bladder, it accommodates a 3L reservoir and has guides in place for the hose. All zippers have large pull-tabs, making it easier to handle with full-fingered gloves. The Maratour sells for \$120 and bladders are sold separately for \$35.

**Bikesportz Imports [www.bikesportz.com.au](http://www.bikesportz.com.au)**



## BARELY THERE

The Lizard Skins DSP grips are feathery-light. Offered in two thicknesses, the 30mm version is 27g for a pair while the fatter 32mm grips are 30g. In either case that could save around 100g when compared to an average set of lock-on grips. They are made from a material that Lizard Skins describes as 'DuraSoft Polymer' (it felt like dense closed cell foam to us). To prevent slipping, Lizard Skins supplies the grips with a sheet of double sided adhesive tape; this gets wrapped around your bars and glues the grips in place. These grips are offered in a wide range of colours and sell for \$39 a pair.

**Bikecorp [www.lizardskins.com](http://www.lizardskins.com)**





# GX

1x11  
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2x10

# RIDE YOUR WAY

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## #ENDUROSPECIFIC

Some gravity enduro events now mandate the use of a full-face helmet in the timed 'special stages'. Met designed the new Parachute specifically for these events. Where a lightweight downhill helmet may be around 1,100g, the Parachute comes in at 717g (taken from our medium sample with visor). Aside from being substantially lighter, it also features extensive venting that's not unlike a trail helmet. We got to use this helmet at the opening round of the National Enduro Series in Mt Buller. While the temperatures were cool at Mt Buller, the Parachute proved comfortable enough to wear all day long—both uphill and down. In warmer weather the jaw pads can be removed for the climbs—improves the airflow and only takes a few seconds.



Selling for \$280 the Met Parachute meets Australian Standards as well as passing the full-face specific ASTM F1952-2032 standard. **Advance Traders 1300 361 686**  
[www.met-helmets.com](http://www.met-helmets.com)

## SIDE LOADER

With swooping top tubes and smaller frame sizes, fitting a water bottle on the down tube can be a real squeeze. That's where side-loading cages like this one from Syncros can come in handy. The Tailor cage is made from a tough but flexible nylon and sells for \$20. It's offered in a range of colours as well as right or left side loading versions.

**Sheppard Industries 1300 883 305**  
[www.syncros.com](http://www.syncros.com)



## CUSTOM KIWI

Revolution Components is a New Zealand based manufacturer that specialises in chainrings, cogs and items such as derailleur hangers. As they manufacture in-house, they can react quickly and release new products when a niche appears. This narrow/wide direct mount chainring is a good example. It's made to suit RaceFace Cinch cranks but with additional offset to create a 49mm chainline (the stock direct mount rings are 51mm). The straighter chain line makes the chain less likely to fall off if you backpedal whilst in the lower gears on the cassette. Revolution makes direct mount and regular chainrings in a variety of sizes, and if they don't make it already, there's a good chance they'll be able to knock one up as required. Most standard chainrings cost \$90-\$100.

[www.revolutioncomponents.com](http://www.revolutioncomponents.com)



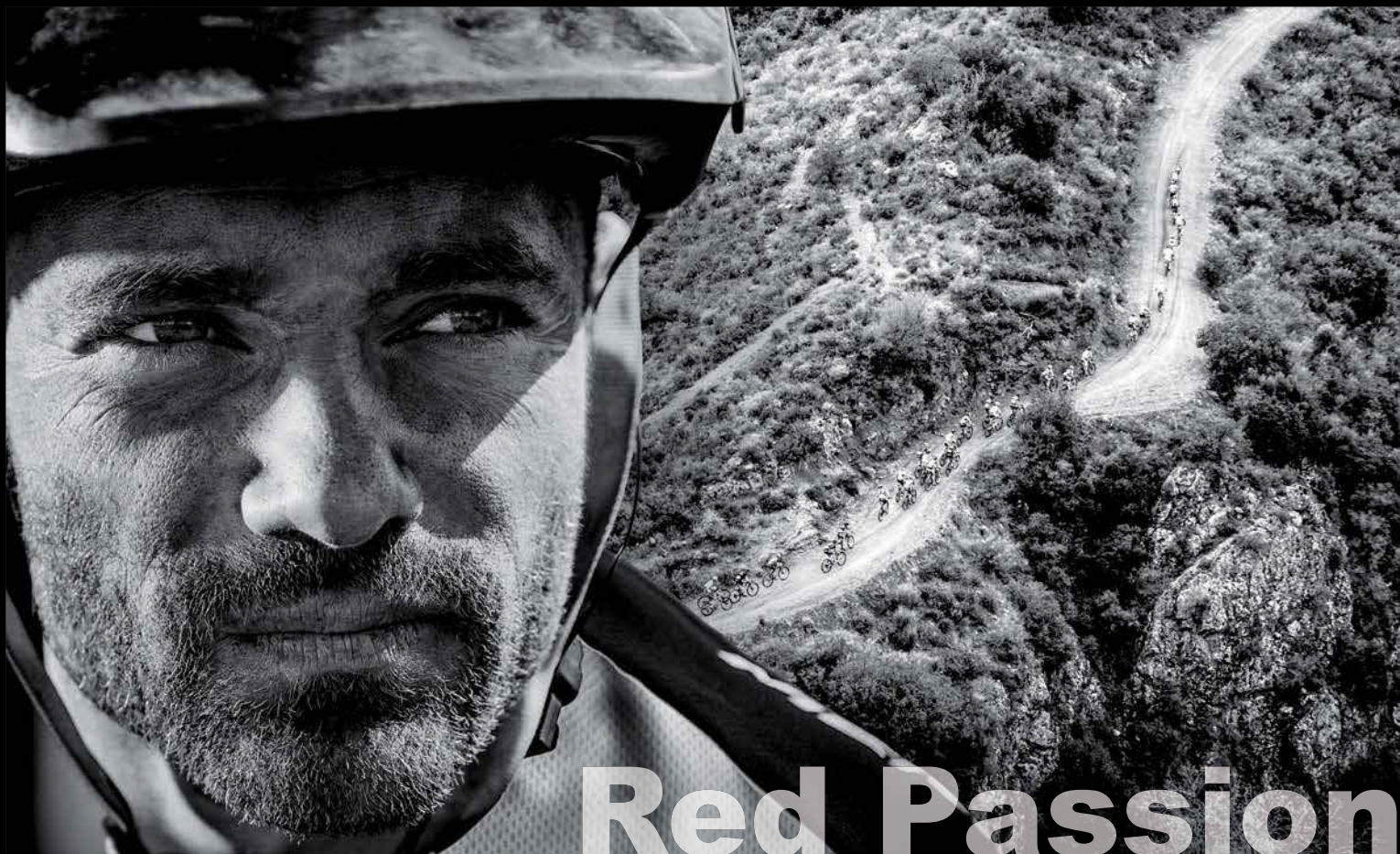
## RIDE TUNED

More than just light, the Stan's Valour carbon wheels are said to provide extra vertical compliance whilst remaining stiffer and stronger than their alloy counterparts. The Valour wheels still feature their 'Bead Socket' inner rim profile to keep the tyre in place at lower pressures and the low profile hookless bead locks should be less vulnerable to impact damage. The rims measure 21mm internally and 26mm across the outside. Aside from their claims of strength and ride comfort, the Valour wheels are also exceptionally light; our 27.5 sample tipped the scales at just 1,225g with the tubeless tape fitted. Available in 27.5 or 29-inch sizes, the Valour wheels should sell for around \$3,200 and are rated for riders weighing up to 104kg.

**JetBlack Products (02) 4560 1200 / [www.jetblack.com](http://www.jetblack.com)**







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[www.fulcrumwheels.com](http://www.fulcrumwheels.com)





## BIG BARS

With the recent trend towards wider handlebars, a number of manufacturers have decided to employ a larger 35mm diameter centre bulge as a way of increasing stiffness. Fouriers is one of the brands offering a 35mm handlebar and stem combo. The HB-M001 carbon handlebar is 780mm wide and they can be cut as short as 660mm if required. Their dimensions are relatively standard, with a nine-degree up sweep, five-degree back sweep and a 20mm rise. With a claimed weight of 279g you'd assume they are very solid and they also make them in a 428g alloy version called the HB-MB003. Either of these 35mm bars would form a neat fit with the Fouriers 35mm stem. The SM-MB001 is 50mm long with no rise and weighs 205g.

Expect to pay \$169 for the carbon handlebars and \$110 for the matching stem.

Tian Ye Roadstar (02) 9653 9388 / [www.fouriers-bike.com](http://www.fouriers-bike.com)



## NEGATIVE PRESSURE

The latest trend in air shock design has been to increase the volume of the negative spring. This tweak is meant to overcome the shock's initial resistance to movement and provide a more 'coil like' feel. Some aftermarket manufacturers are offering replacement air cans for various shocks but RockShox has already incorporated this concept into their Monarch Debonair shocks. If you've got a 2014 model Monarch or Monarch Plus that didn't come with the Debonair setup, you can buy the air can separately for around \$160. The upgrade is said to improve the shocks sensitivity to small bumps and smooth out the initial suspension action.

Monza Imports  
[www.sram.com](http://www.sram.com)



## VICE SQUAD

The Specialized Vice is loaded with features that will appeal to the trail rider. Like an XC helmet it has plenty of good-sized vents with internal channels to aid airflow, but it also offers a deeper shell with more coverage, especially at the rear. Specialized offers the Vice in three different shell sizes, which is better than most. This combined with the dial retention system increases your chances of obtaining a comfortable fit. The Vice sells for \$150 and is offered in a range of colour options; black, moto green, blue, white and hyper green.

Specialized Australia  
1300 499 330  
[www.specialized.com](http://www.specialized.com)



## FOUR POT POWER

Magura brakes are back on the Aussie market and we've reviewed their affordable MT4 model in this issue (page 35). While the MT4 proved to be a solid performer, the MT5 looks like the go-to option if you want really serious stopping power. It uses a similar lightweight lever to their other models but features a chunky four-piston calliper. Magura rates these brakes for DH use but the overall package remains light enough for general trail riding applications. The lever, hose and calliper on our sample weighed 255g which is comparable with SRAM's four piston Guide brakes. All up with a 180mm rotor the MT5s come in at 405g. At \$251 per end including rotor, the new Magura MT5 brakes are well priced too.

Eurocycles (02) 9420 9480  
[www.magura.com](http://www.magura.com)





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## SPEEDY INFLATION

If you get tired of pumping up your air sprung suspension with a tiny shock pump, this little gadget could be the solution. The Pressure Rite Shock Adaptor mounts to a high pressure floor pump and allows you to inflate your suspension around 10 times faster than your typical shock pump. Once inflated, the release dial allows you to incrementally bleed off excess air to get the pressure just right. While it's designed to fit to a Topeak JoeBlow Ace, it should work with most floor pumps that have a schrader valve connector. This clever little adaptor sells for \$30.

**Cassons (02) 8882 1900**  
**www.topeak.com**

## LOOPY BAR

Certainly not your usual sort of handlebar, the Jones Loop H-bar is designed with long distance mountain biking in mind. They provide a number of additional hand positions that allow you to move around on the bike. You can stretch out and get aero by placing your hands in the forward position, rest or do road climbs in the rear/middle position and tackle more technical terrain in the outermost hand position. The H-bar also offers a more pronounced back-sweep than traditional MTB bars, which some believe to be easier on your wrists and hands. The H-Bar is offered in 660mm and 710mm widths and sells for \$185 in the aluminium version (a carbon version is in the works and titanium is available by special order).

**Dirt Works Australia (02) 9679 8400** **www.dirtworks.com.au**



## EXTREME POWER

The Extreme Tech MTB shoes from Italian brand Northwave are designed to maximise power transfer. A stiff carbon sole works to minimise flex while combination of click-lock strap and dial closure keeps your foot solidly anchored in place. The heel cup is padded and lined with non-slip material to further enhance the fit and efficiency. High-wear areas around the sides gain added protection with thermo-welded polyurethane reinforcement. These race-oriented XC shoes are said to weigh 716g a pair and sell for \$299.

**Bikesportz Imports www.bikesportz.com.au**



## SECURE PROTECTION

Modern smartphones are handy for everything from navigation to ride recording but most phone cases aren't made with MTB use in mind—generally it's not a good idea to strap a phone to your bars. The Aussie designed Quadlock case is said to offer fast but extremely secure bike mounting whilst also protecting the phone from impacts. When you're off the bike, the polycarbonate case is slim enough to serve as everyday phone protection. The case sells for \$69 with bike mounting kit and this also includes a rain resistant 'poncho' screen cover. The Quadlock is available in a range of models to suit both Apple and Samsung smartphones.

**Bikecorp www.quadlockcase.com**

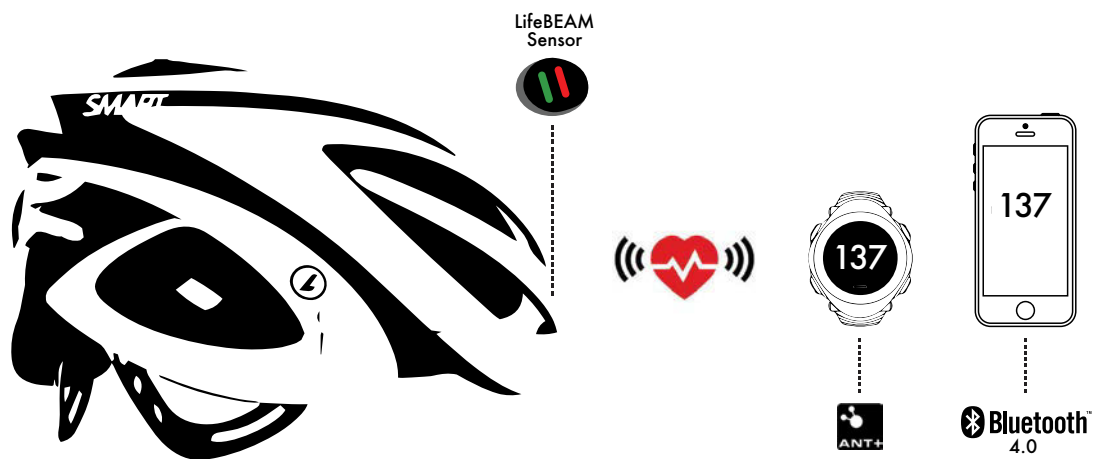




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# wild in Wellington

Most mountain bikers know about the great riding on offer in New Zealand but Wellington isn't the first destination that comes to mind—this anomaly needs to change!



Bryn from Southstar Trails hooks into the Peak Flow trail at Makara.



**I**f you're into social media and follow some of the world's top mountain bikers, you'll see a common thread over the past few years. They're increasingly escaping their miserable northern hemisphere winters and heading to New Zealand; and who can blame them. With amazing countryside, even more amazing trails, great food, and super people it really is a hot mountain bike destination. Wellington and surrounds is definitely an 'over the ditch' riding region that adds yet another feather to that hat.

I recently travelled to Wellington to sample their trails and here's what I discovered in that jammed packed week of riding.



# Wild in Wellington

Descending the rough and ready Ridgeline with the city of Wellington below.

BELOW: Rewards—we each have our own.



## DAY ONE — ALL-DAY SHRED IN WELLINGTON (AND SAMPLE SOME FINE BEER OF COURSE)

The day started with the task of picking my first ride location, and I'd been given a long list of suggestions. Seeing as I'm also a photo nerd and wanted get the best views, I headed for Makara Peak MTB park.

Makara was established in 1998 and it's a purpose built mountain bike park



that sits just on the edge of Wellington. It's really easy to find and I was amazed at how accessible it was from town. You can ride there from the centre of the city but be prepared for some hill climbing.

At the trailhead I was astounded at the facilities; clean toilets, shared tools and a bike wash station, plus there's all the maps and information you'd ever need to help you get around the 40km or so of trails. And if you're ever in a bind, Mud Cycles is literally just down the road from the trailhead. I quickly located a route to the peak, and one great thing is that trails are numbered as well as named—I find it much easier to remember a connecting sequence of numbers, so this setup worked well for me.

The climb seemed ominous, as the peaky mountains of Wellington draw their impressive looks from their steepness—there's nothing mellow about the slopes that surround the city.

Off I went into the thick dark scrub, prepared for a world of hurt.

**"THERE I WAS, IN THE MIDDLE OF ARGUABLY ONE OF THE GREATEST WINE DISTRICTS IN THE WORLD, AND I HAD TO ADMIT THAT MY ONLY VICE IS BEER."**

What I found, however, was a very well designed trail network that enabled a climb of over 260m to be made with relative ease. On the way up you get little previews of the vistas as the canopy frequently, but briefly, opens. When you finally get to the top you're greeted by absolutely amazing 360 degree views of the city as well as Wellington Bay and the blue waters of the Cook Strait.

Now I had a tough choice to make; which trail to take to the bottom? There are seven or so to choose from and I went with Ridgeline; a trail that I'd seen splashed over the pages of magazines and internet galleries. Ridgeline's 'expert' grading is well deserved; it's well-worn, rough, technical and old-school yet super fun.



# General information

## WHEN TO VISIT

To be honest Wellington can have some shitty weather so summer is going to be your best bet. If you're hardcore and like the cold and wet the trails looks like they managed and conditions really well.

## GETTING THERE

Even if you own a VW Beetle you can't drive all the way to NZ so you'll have to fly. NZ's national carrier Air NZ has some really cool safety videos and well worth the direct flights to NZ, but QANTAS will be able to get you there as well. Wellington is spread out and we would recommend a rental car to save your legs for shredding but it's not 100% necessary as you can ride, ferry, taxi to most riding locations. We super recommend GPS though. The streets are a maze.

## BIKE SHOPS/RENTALS & TRAIL INFORMATION

Wellington is very well equipped with bikes shops and tour operators.

Here's a bunch that you can visit:

Burkes Cycles – [www.burkescycles.co.nz](http://www.burkescycles.co.nz)  
Dirt Merchants –

[www.mountainbikingwellington.com](http://www.mountainbikingwellington.com)

iRide – [www.iride.net.nz](http://www.iride.net.nz)

Mud Cycles – [www.mudcycles.co.nz](http://www.mudcycles.co.nz)

Cycle Science – [www.cyclescience.co.nz](http://www.cyclescience.co.nz)

Wellington Mountain Bike Club -

[www.wmtbc.org.nz](http://www.wmtbc.org.nz)

## ACCOMMODATION OPTIONS

Oh man, where do we start! As the capital city of New Zealand, Wellington has no shortage of options. The Positively Wellington Tourism website is a good place to begin:

[www.wellingtonnz.com/discover/accommodation](http://www.wellingtonnz.com/discover/accommodation)



Mid-way down Ridgeline I ran into Rohan and Bryn from Southstar Trails. They were busy building a new trail and invited me to take a sneak peek. Called Peak Flow, this trail will offer an alternative to the raw and technically demanding tracks like Ridgeline. 'Flow trails' are all the rage at the moment and this was a good one; wide with berms, jumps and secret lines – Bryn is also a World Cup DH racer and he showed me a couple – it'll be a great addition to trail network once it's completed.

I only got to sample a small amount that Makara offers and it was enough to get me hooked. I grabbed a quick bit of lunch and headed off to the next ride location; George Denton Park and Polhill Reserve.

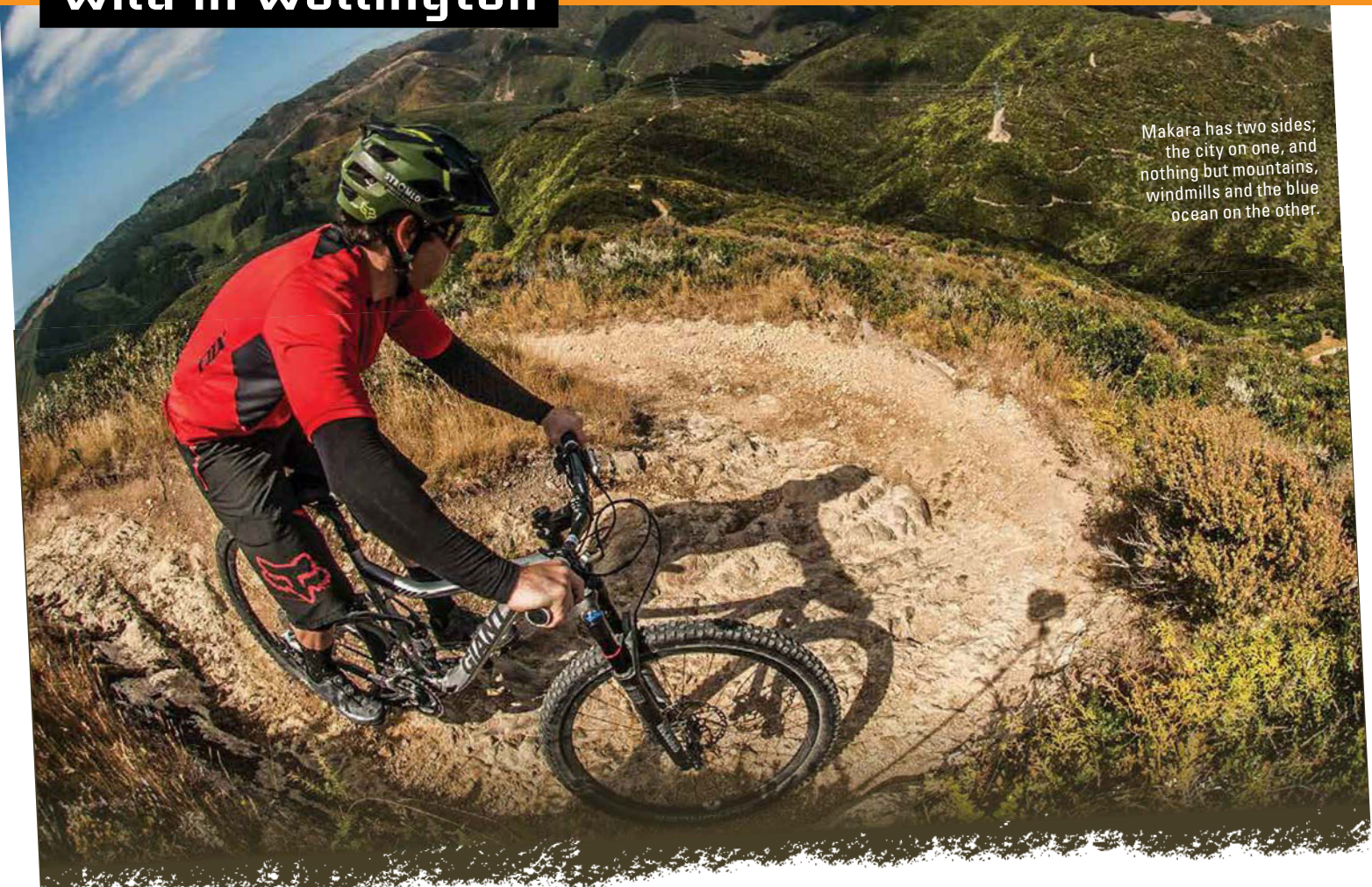
## POLHILL RESERVE

Polhill sits within easy access of the city of Wellington, however it's more a network of trails (some multi-use) than a specific mountain bike park. As with everything in Wellington, you have to be prepared to climb—this extends to walking, running, skating or ducking out to grab the eggs and milk.

The ferry trip to the South Island offers amazing views.







Makara has two sides; the city on one, and nothing but mountains, windmills and the blue ocean on the other.

The route I took to the top was probably the hardest. Following an old downhill track I climbed the Fenceline Trail which skirts alongside a predator proof Karori bird sanctuary. I'm not going to lie, it was tough but sometimes it's better to get the pain out of the way as quickly as possible.

Again, super views were to be had but I wanted to get to the trails quickly to earn my reward. I found my way back down the mountain on some really well made and flowing trails. Once again I only got to sample a very small amount of what was on offer. I'd suggest finding a local for these trails, otherwise you might miss the best it has to offer.

Oh, and that reward I was talking about; there's a cool little brewery located in an old petrol station. Aptly named Garage Project, you'll find it just as you leave the trails and head back into town through Aro Valley. I'm a connoisseur of fine beer and Garage Project didn't let me down. I wished

that I didn't have more riding planned but I had to control myself and preserve some cognitive ability for my last ride of the day; Mt Victoria and the Super D track.

## MT VICTORIA

Mt Victoria is literally a stone's throw from the city centre and I quickly located trails and signage that pointed me to the top of the mountain. I arrived at the top as the golden hues of sunset were starting to spread across the city. Taking a moment I started to reflect; all of this, all of those trails, all surrounding the convenience and lifestyle of a city so close. I was a special little moment that brought a tear to my eye—maybe it was the beer...

The Super D trail was a mixed bag of fun. Roots, jumps, speed, steep, narrow, wide; it had a bunch of variety and I could only imagine how much fun it would be when they use it for a race. I just couldn't imagine the roots in the wet!

## DAY 2 — A FERRY WITH A VIEW

I literally rode my bike onto the Interislander ferry as I headed across the Cook Strait to the top of the North Island. While you could spend a week exploring the MTB trails that immediately surround the city, the greater Wellington offers even more. Catching the ferry to Picton was an experience in itself. This three hour journey is definitely a must do; arriving at the North Island and negotiating the Marlborough Sounds is something that will stay with you forever.

In Picton I was greeted by Jason Henry from Destination Marlborough and we headed for a short drive over the hills to ride White's Bay. White's Bay is a popular local beach and camping destination that also hides one of the best mountain bike trials in the region; a spot that's also on the map for the NZ Enduro Series. At the trailhead I met up local rider and wine maker Tim Adams from Astrolabe Wines. There I was, in the



middle of arguably one of the greatest wine districts in the world, and I had to admit that my only vice is beer. He took it well.

Tim explained what was ahead; heaps and heaps of climbing, followed by a super long descent. Tim was right; there was heaps and heaps of steep climbing. The climb took about an hour, give or take an hour, but who was counting!

The descent however was worth all the pain. What originally started as a secret downhill trial has been made official through work with the Department of Conservation. The White's Bay descent now offers a very long brake-burning 487m drop that encourages you to ride as fast as your fear lets you, all with a magical finish back on the beach where you started. There aren't any huge jumps or drops to worry about but there are plenty of rocks, roots and sections of trail that can really get away from you. Luckily I like to take photos, so I had an excuse to rest a couple of times and let my arm pump recover.

Tim must have forgiven my insult to his craft and was even good enough to take me out for a beer after the ride—Renaissance Brewery was just around the corner.

## DAYS 3 & 4 – IS THE QUEEN REALLY A CHARLOTTE?

The next two days would see me tackle the famous Queen Charlotte Track. Originally a walking track, it has been progressively opened up to cyclists. The 70km long trail skirts an amazing route from Ship Cove to Anawika—it's the one of the longest continuous pieces of singletrack in New Zealand.

I wouldn't be doing it alone though, as I was joined by the world's most knowledgeable guide; Martyn from Wilderness Guides. As with everything in the Sounds you have to get water transport, so we loaded our bikes on a boat and headed for a trail head at Camp Bay. Camp Bay isn't the official start but during the peak season the first third of the Queen Charlotte is closed to bikers (26.5km from Ship Cove to Camp Bay). Not such a bad thing as it we only faced a 40km journey over two days—easy!

Well, maybe not so easy. As soon as you jump on your bike at Camp Bay you head straight up a very steep hill. Lucky I had been in New Zealand for a few days and I was

Up high on the Wainuiomata trails—a 30 minute drive from Wellington, or you can catch the ferry.



ABOVE: Up above suburbs of Wellington at Makara.



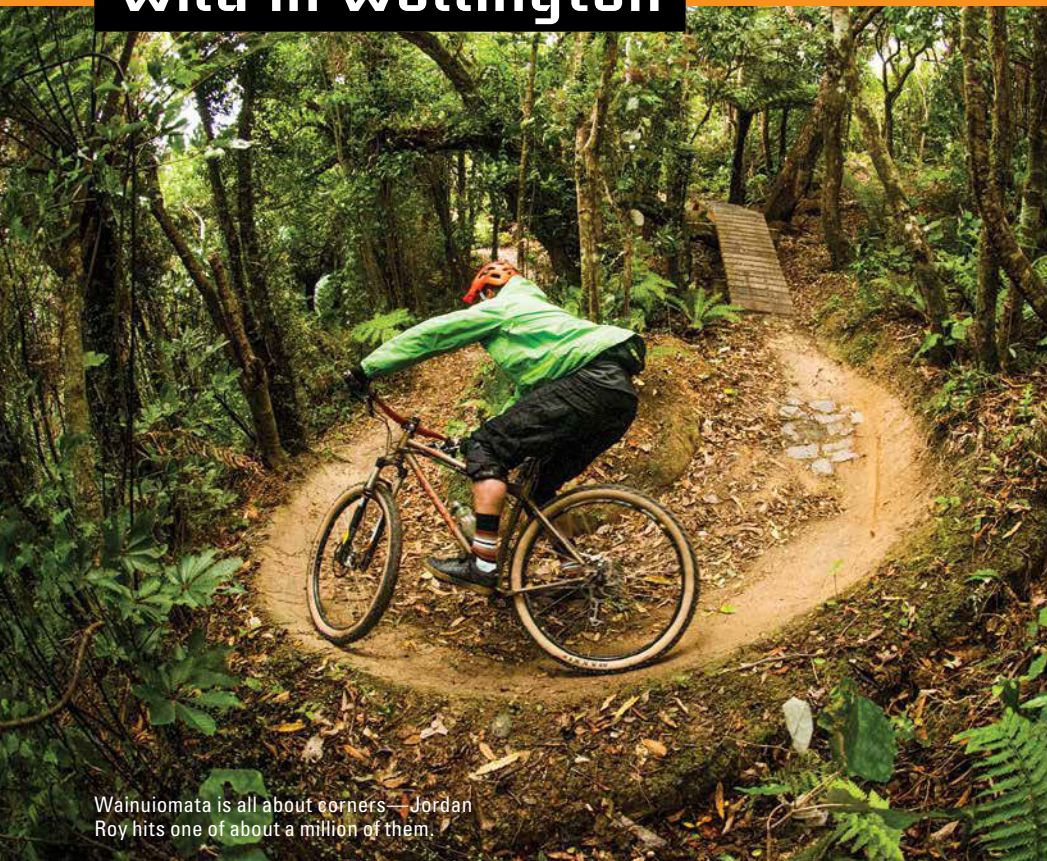
LEFT: Loaded up and heading out to ride the Queen Charlotte.

BELOW: Looking across the Marlborough Sounds from the Queen Charlotte track.





# Wild in Wellington



Wainuiomata is all about corners — Jordan Roy hits one of about a million of them.

getting familiar their version of hills. The rest of the day was a mix of up and down, and plenty of amazing views. About halfway through that first day we took a quick detour to the top of Eatwell's Lookout. From there you can really take in the scale of the surroundings and realise just how special it is to be riding in such a remote location.

While our first day was only 20km, it was a hard slog with way more climbing than the previous days' combined. By that afternoon when we arrived at Portage Bay, I was totally stuffed. On a boat again I was ready for some relaxation and I headed to the peaceful surrounds of the Lochmara Lodge.

The final day of riding on the Queen Charlotte Track was the section between Portage Bay and Anawka, and it proved to be the best. Yep, it started with an epic climb, but the lengthy descent into the finish was an absolute blast; the last few kilometres were easily the best trail on the whole Queen Charlotte Track. The

only thing that holds you back from going absolutely flat out is being conscious and respectful of other trail users. Perhaps they can close that section down for a week or so, just for the mountain bikers!

We chose to ride the Queen Charlotte Track (albeit an abridged version) in two days and it's up to you whether you do it over one or 20 days.

## DAY 5 — FINAL RIDES...

By now I was back in Wellington for my final day of riding and I was looking for something different. Dave from Adventure Ventures hooked me up for some well-deserved shuttle runs at the Wainuiomata Trail Project in the Lower Hutt, about a 30 minute drive or 45 minute ferry ride across Wellington Bay. The seas were rough for my ferry ride and I always enjoy starting my mountain biking with that sick feeling (not).

The lower section of the Wainuiomata mountain bike park has a skills area and

beginners' trails. Higher up the hill you'll find some super fun downhill and flow trails. It is also a perfect spot to do shuttle runs; a main road runs over a saddle in the mountain and from there it's an easy push or ride to the top. I was stuffed after four days of solid riding, so the shuttle option was perfect!

After a couple of runs it was time for lunch and we headed off for food and beer. To me, that was a big reason I loved the mountain bike riding in Wellington. The trails are amazing (even the small sample I was getting) and the off-bike activities are so easily reached from every trailhead.

After lunch I asked for something completely different; something that any member of your family could enjoy, no matter what their cycling skills are. You could say that I wanted to cover the full gamut of cycling in Wellington, but I'd be lying, I was totally stuffed and wanted to take it easy but still experience the amazing landscape and scenery in the area. We headed off to ride the Pencarrow Lake and Lighthouse region where the scenery was definitely Instagram-worthy.

I had an absolute ball in Wellington, although I'd only scratched the surface of what the region has to offer. I was constantly hounded by friends in the area to ride so many other 'even better' locations.

It made it clear that Wellington deserves a higher standing on the New Zealand riding map. Yeah, we've all heard of, or been to Rotorua and Queenstown, but I honestly think that if you spent a good solid week in Wellington you would be far, far from disappointed. Plus, you get to hang out in a really cool town with some amazing food (Ekim Burgers makes a mean burger) and of course, great beer.

NZ mountain biking rocks and Wellington does too!

*Damian travelled as guest of Tourism Wellington. Special thanks to Giant NZ and Cycle Science for providing his shred machine.* **mba**



What a way to end a ride — at White's Bay near Picton at the top of the South Island.



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# Shimano XTR Wheels



The bearings and grease in our hubs still looked fresh at the conclusion of our review.

After seven months of solid riding, we take a look at how Shimano's new XTR wheels perform.

**F**or 2015 Shimano completely redesigned their XTR wheels. As with the previous version, they are offered in both Race and Trail flavours. The Race version provides a 20mm inner width. We opted to test the wider Trail version which measures 28mm externally and 24mm between the bead hooks—not super wide but it's enough to support to a good sized trail tyre.

Our 29er test wheels weighed in at 1,726g (795g/931g) which is around 50g over the claimed figure (the Race version is around 100g lighter).

The most obvious difference with the new wheels is found in the rim. From the outside you'd think it was all-carbon but it's actually alloy with a carbon

outer wrap. The inner alloy extrusion is thinner than usual while the outer carbon layers add stiffness.

These rims have a tubeless compatible profile but the inner surface is drilled, so tubeless rim tape is required (they come pre-taped). Tyre fit seemed on the loose side. This makes tyre removal easier but you'll probably need a compressor and a bit of patience to get certain tyres to mount.

## GETTING GREASY

The package is held together by 28 straight-pull spokes and some very lustrous smoky looking hubs. As with all Shimano wheels, they utilise 'cup and cone' bearings. Shimano says they are better at handling side loads than the more commonly used cartridge bearings. We suspect this is true but the design presents a number of pros and cons.

On the plus side they are entirely user serviceable. With the correct size cone spanners, you can entirely strip and rebuild the hub with fresh grease. While you can repack cartridge bearings, it's often less successful and many people treat them as a disposable item. There are more individual balls inside than with a typical cartridge setup and you generally get better control over the bearing preload—it requires a deft hand but you can get them spinning just right.

The negatives are that it's a bit fiddly to work on. Some of the balls run loose in the cup, so you need to take care not to drop them on the workshop floor. With the ability to fine tune the bearing preload comes the chance that you'll stuff it up; too much preload will kill your investment quick smart. And finally, the cones and balls are replaceable but wear the inner

bearing cup and the hub is toast. We pulled our hubs apart at the end of our review and the grease was still looking pretty fresh, so the sealing certainly appears to be up to the task.

There's no adaptability with these hubs; the front is 15x100mm while the rear is 12x142, they are the only options with the Trail wheels. They are made for Centre Lock rotors; there's no six-bolt option although some companies make aftermarket adaptors if you need them. As you'd expect, the freehub is Shimano only (10 or 11-speed). There's no SRAM XD Driver option and they no longer offer a 26-inch option.

On the trail the wheels proved sufficiently stiff and surprisingly robust. The 2mm thick bead retaining hooks look a little dainty but they didn't sustain a single dent. The rear wheel did go out of true by 2mm or so but it straightened up after a quick whirl in the truing stand.

The freewheel mechanism offers 36 engagement points, which is on par with most high-end wheels, offering good control on technical trails. We also appreciated the titanium freehub body. It didn't show any signs of gouging on the cassette splines—it seemed far more robust than alloy.

Retailing for \$1,670 they sit at the upper end of what you'd expect to pay for a high-end alloy wheelset but they are cheaper than carbon. You still get the cool carbon rim looks and they proved to be a reliably tough all-round trail wheel. **MBA**

Shimano Australia  
[02] 9526 7799  
[www.shimano.com.au](http://www.shimano.com.au)





# Magura MT4 Brakes

With a new local distributor, German brand Magura hopes to regain some popularity Down Under. Here we check out one of their more affordable disc brakes.



Magura offers a five-year leak-proof warranty on all of their brakes—from the base model MT2 up to the MT8.

**O**ver a couple of decades ago, Magura was the go-to brand when it came to hydraulic MTB brakes. While they remain a well-recognised brake brand, the market has been dominated by SRAM and Shimano stoppers in recent times. Of late Magura has introduced some really neat features, and most of these are present on the MT4.

Selling for \$200 per end including the rotor, the pricing is pretty sharp (only the MT2 is cheaper at \$130 per end). At this price you could well expect the brake to suffer obvious downgrades but it features the same 'Carbotecture' master cylinder construction as their more expensive offerings. Carbotecture is a mouldable carbon reinforced thermoplastic that Magura developed specifically for their brakes. It keeps the weight down while offering good impact resistance.

At the opposite end is a solidly built forged one piece alloy calliper. Employing lightweight materials in the lever allows them to add a bit of beef to the calliper whilst retaining a decent overall package weight. The

extra material in the calliper adds stiffness and improves heat management. They also add thickness to the rotors; most brands use 1.8mm rotors while Maguras are 2mm thick—this makes the rotors more resistant to warping.

This concept of reducing weight where they can while adding it where it really matters is something that carries through their entire range. Our MT4 brake weighed 225g for a front lever, calliper and hose. Two rotor options are offered; the regular one is the Storm (115g for the 160mm size) or you can opt to save 20g or so with the Storm SL rotor (95g in 160mm). This is nice and light for a twin-piston hydraulic disc brake, especially at this price point.

## TORX-TASTIC

The MT4s were easy to setup and work on. I was able to cut and reconnect the hoses without needing to bleed the system and the use of mineral oil makes jobs like this a little less hazardous. While I'm not a huge fan of torx fittings, Magura uses the same T25 size throughout, so one tool is all you need for everything from pad removal through to undoing the bleed ports—good thinking Magura. And speaking of pad replacement, Magura uses magnets to keep

the brake pad stuck to the piston. This worked really well and the pads are accessed through the top of the calliper. It was nice to do a pad swap without needing to mess with spring loaded pad spreaders.

While some of the fancier models offer tool free reach and contact point adjustments, the MT4 is comparatively simple. A T25 tool will let you vary the reach and that's it—just hit the trail. The lever is a two finger design but I just shifted the master cylinder inboard for easy one-finger braking. I also rigged used their ShiftMix adaptors to mount my gear levers and tidy up the bars (an SRAM only option).

There's enough piston retraction to make the initial setup a hassle free affair and there was never any rotor drag. For the most part the MT4s ran quietly, although hard braking at lower speeds did produce a metallic grinding noise as the wavy Storm rotor ran through the resin pads.

Compared with many hydraulic discs, the Maguras have a soft lever feel when the pads initially contact the rotor. Initially I thought this was flex in the Carbotecture lever body but it wasn't. This softness is just the modulation as the power comes on. These brakes aren't grabby in any way, and

this is a great thing when it comes to bike control. Pull the lever further and there's good power on tap—as much as most riders are likely to need for XC and general trail riding. If your penchant is gravity enduro, look towards their four piston models such as the MT5 and MT7.

For the money the MT4 is a great brake. Performance wise it loses little or nothing to brakes that cost far more and it proved to be hassle free throughout our review. **MBA**

**Eurocycles [02] 9420 9480**  
**www.magura.com**





The lowers of our fork remain relatively unscathed after the best part of a year on the trail.



# RockShox RS1 Long Term Review



**It's unique, expensive and looks amazing but how does the RS1 cope with long-term use?**

a RockShox Reba. The swap straight-out transformed the ride. It felt more controlled and didn't twang back and forth when braking into rough corners. We were pretty stoked with the performance and while it's around 130g heavier than a SID World Cup XC fork, the added control was appreciated whenever the trail turned rough.

The RS1 can be set to offer 80, 100 or 120mm of travel, so next we tested it on a 120mm trail bike. The fore-aft stiffness remained a highlight; it's clearly more stable when braking and it doesn't feel like it wants to fold back underneath you.

When compared to a good 120mm travel trail fork, the RS1 seems to suffer a bit more stiction. One of the supposed benefits with an upside down design is the permanently lubricated seals. However, if you push down on the bars and gradually increase load, the fork resists movement until you reach a certain point, then it suddenly falls into its travel. I tried a few other RS1s and they shared the same trait. An oil bath and air piston service did improve things but still wasn't the most supple in this regard.

While this stiction would generally be seen as a negative, it actually seemed to serve a purpose on the RS1. It is pitched squarely at the XC racer and this initial resistance helps to stabilise the fork when you're out of the saddle and cranking—like a simplistic form of platform damping.

RockShox uses their 'token' spacer system to tune the air volume within the fork. The stock setup uses two spacers and this worked well in the 100mm travel mode. Once we bumped it up to 120mm,

we felt that an extra token was required to make it softer initially whilst still offering enough bottom out resistance. Overall we'd say that the RS1 air spring felt more natural in 100mm format.

## BIG HIT BABY

With a little bit of stiction, you would expect the bump-eating performance to be compromised. While I'm sure it'd eat the bumps even better if it wasn't sticky, the upside down design offers a clear improvement when you're pushing the bike hard and taking mid-to-large sized hits. A traditional fork may feel smoother in the car park, but they tend to bind when the fork is loaded up. Much of this comes from flex in the skinnier upper legs; when they bend the bushings no longer slide freely. With its short inner legs and massive upper assembly, the fork is better able to move whilst you charge headlong into the bumps. It mightn't be as pillowy as a dedicated trail fork but it offers excellent control for what it is—a super-light fork that pairs well with shorter travel XC bikes.

As for the fears of stanchion damage; our fork copped its share of knocks on the dropouts but we only noticed one little nick on the lower slider of the fork—it was the sort of scratch that would buff out with some fine wet and dry. Perhaps we were lucky but we certainly didn't treat the fork with kid gloves. If you did damage an RS1 lower, they can be replaced individually for \$159—by comparison a regular crown and steerer assembly is a little over \$500. **mba**

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# W

ith its 'upside down' layout, full-carbon upper legs and exposed stanchions, the RS1 has raised a lot of questions about its longevity. We've had this RS1 in action for almost 10 months now, so let's take a look back at how it has fared.

First up a quick recap... It retails for \$2,300 and you

also need to buy the matching proprietary hub, so it's crazy-expensive. Still, I've seen a number of riders using them and they come as standard spec on some \$6,000 hardtails.

The design places the largest part of the structure up near the crown; right where the leverage is greatest. Instead of using a brace, the massive 27mm diameter axle of the Predictive Steering hub serves to tie the lower legs together.

Initially we mounted the fork to a carbon hardtail, replacing



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# Race Face Atlas Pedals

There's definitely a growing market for good quality flat pedals. With this in mind we take a look at the latest offering from Canadian brand Race Face.

In the last few years there's been a big resurgence of flat pedal use amongst trail riders, and I'll freely admit to being a flat pedal evangelist. Flat pedals help make you a better rider by highlighting the shortcomings in your technique, as well as offering a faster bailout when things go pear-shaped. To coincide with their increasing popularity, we've also seen improvements in flat pedal design, and Race Face's Atlas pedal typifies the upper end of current flat pedal technology.

Available in four anodised colours, our test set hit the scales 5g below spec at 350g—that's as light or lighter than plenty of clipless pedals. It's all the more impressive when you realise that the pedal axle is made from chromoly steel and each pedal runs on four sealed bearings—no bushings are used on the Atlas pedals. The price of \$199 might seem exorbitant but many riders wouldn't even think twice about paying that for a top-end pair of clipless pedals, and Race Face does offer the cheaper Aeffect pedals for those on a tighter budget.

So what do you get for your dollars? It has to be said that you actually get quite a lot of serious design and engineering in the Atlas pedals. First up, they use 10 back-loading traction pins per side; if you trash a pin they're easily removed from the opposite side—there's even a spare pin hidden in the end of each axle.

They're also very thin; between 12 and 14.5mm depending on where you measure them. Thin pedals get your foot closer to the axle centreline, which not only makes pedalling more efficient, but also helps to stop the pedal spinning under your foot. The Atlas' use a double concave design, so they taper from front to back and left to right to help keep your feet centred and stable. To further enhance this effect, the front and back pins also angle slightly inwards, so both the pedals inherent shape, plus the pins, are working to keep your foot where you put it. But wait, there's more! The pedals come supplied with thin washers, which you can put behind the pins to effectively shorten them by a millimetre or two. By fitting these washers to the three mid-mounted pins, I managed to increase front-rear concavity even further!

## LIKE VELCRO

When combined with a decent pair of flat-pedal specific shoes, the net result is a truly foot grabbing level of traction and stability. During several months on the Atlas pedals I've never found them wanting for grip, and I've never rolled a pedal. The platform is 114mm long by 101mm wide, which is plenty big enough for all but the most massive of hooves. Being wider at the front and narrower at the rear, plus having the outer leading edge heavily chamfered, I've found them to be much less prone to pedal strikes than the platform dimensions would have you think. Sure they've still got a few scrapes, and the anodising is starting to rub off a little from contact with my soles, but overall they're looking very good considering how much they've been ridden. The bearings are still super smooth and the axles straight, but it's nice to know that Race Face make both bearing and axle kits for when things get worn out or damaged.

Out of the box, one of our test pedals had 1-2mm of lateral play; it isn't enough to affect how they function and it goes unnoticed in the rough, but when pedalling on smooth ground I could feel and hear

the pedal sliding along the axle. It hasn't become any worse and apparently Race Face has resolved the issue with tighter manufacturing tolerances and improved quality control.

Prospective owners will also need to ensure they have a set of pedal washers on hand; if installed without them, the large inboard bearing on the Atlas's can jam against your crank arms and prevent the pedals from spinning. This design can also cause issues if you ever shuttle your bike on a trailer that utilises crank-mounted bike stands—there's next to no gap between the inner pedal bearing and the crank arm, so it mightn't slot into place.

These issues aside, Race Face has done a brilliant job with the new Atlas pedals. They're light, they're thin, they're strong, and they're as grippy as you're ever going to need. Add the ability to fine-tune the pin lengths plus the availability of rebuild kits, and it's easy to justify the price. There are a lot of cheap flat pedals on the market, but there are very few as good as the new Atlas; highly recommended for all you flat pedal fans out there! **mba**

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# Pearl Izumi X-Project Shoes

Performance oriented shoes that are still comfortable to walk in; that's the concept but is the X-Project design a success?

**B**ased on appearance alone, you'd assume the new Pearl Izumi X-Project 1.0 to be a cross-country race shoe; areas of exposed plastic and carbon on the sole, not a whole lot of tread and they are very light. Our size 43 sample weighed 681g with the standard insole, which is only fractionally more than Shimano's range topping XC90 race shoes. Dig a little deeper and you'll find there's quite a bit more to these shoes.

The key to the X-Project range lies in the multi-layered carbon, thermoplastic and polyurethane sole. Pearl Izumi says it is stiff under pedalling like an XC shoe whilst still providing tuned-in flex for comfortable walking. It's not the first time we've heard claims such as these, but Pearl Izumi says they've done their homework and achieved just the right mix.



There are two X-Project models in the Pearl Izumi line and both share the same 'stiff yet flexible' sole design. We tested the range topping X-Project 1.0 which sells for \$399. It uses two 'Boa' dials to pull the shoe closed and seamless construction in the uppers. At \$329 the next-in-line X-Project 2.0 remains a high-end shoe. It has different uppers with a single Boa dial and a velcro strap closure system.

If you haven't encountered the Boa system before, it uses a nylon cord that pulls the shoe closed. It's not unlike shoelaces except you wind a dial to tighten the closure. In theory it provides a more even fit with fewer pressure points than a click-lock buckle.

## BOA GRIP

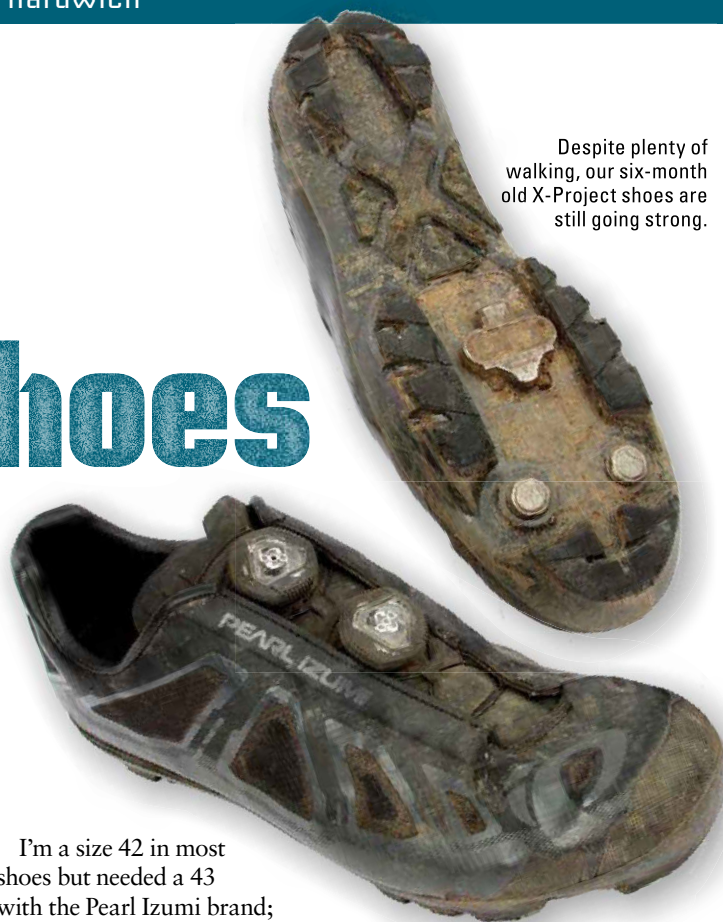
I have used Boa equipped shoes previously and didn't like the way they released completely as soon as the dial was popped open. It was annoying if you only wanted to loosen the closure a little and they sometimes opened inadvertently if the dial was bumped when riding. Thankfully the X-Project shoes use an updated Boa dial called 'IP1'. Winding the dial one way tightens the shoe and winding it back loosens it incrementally, so fine-tuning the fit on the trail is far easier. Pull on the dial and it'll release fully like the older system. Pearl Izumi choose to place the dials up high on the tongue and this makes them less prone to accidental bumps on the trail.

I'm a size 42 in most shoes but needed a 43 with the Pearl Izumi brand; as with any item of clothing, it's always best to check the fit in-store before you part with your hard earned. Initially the fit wasn't ideal and I had pressure points when the Boa dials were done up tight. Over time the shoes conformed to my feet and after a month or two they felt just right.

As for the claims of walkability and efficiency, well I'd suggest that these shoes offer a nice balance. While they may be as light as a serious carbon XC race shoe, they're easier on your feet and there's clearly more flex when walking. Hike-a-bikes were quite manageable and didn't present any discomfort (once they'd conformed to my feet anyway). Of course there were limitations; with areas of exposed plastic and a reasonably narrow footprint, you still need to use caution when boulder hopping over creeks and the like.

When pedalling the X-Project sole doesn't feel as rigid as a full-carbon race shoe, but I don't think that's a bad thing. Racers may put great emphasis on stiffness but there's certainly a risk that race-oriented shoes can be too stiff. Overly rigid soles will give your feet a pounding, which can lead to numbness

Despite plenty of walking, our six-month old X-Project shoes are still going strong.



and general discomfort. When pedalling the X-Project sole is a good deal stiffer than your average recreational MTB shoe but falls short of most carbon soled racing kicks. I felt that they were 'stiff enough' to feel like a performance shoe and I doubt there's any substantial efficiency loss when compared to shoes that run a truly rigid sole.

With its minimal weight, dial closures and racy looks, the X-Project 1.0 is well suited to someone who's after a performance-oriented shoe but still wants some comfort and agility when they're off the bike. After six months on the trail they've held up well and withstood plenty of extended hike-a-bikes. They certainly look like they've been through a war but all of the seams and dials remain intact; pretty good for such a lightweight shoe. And if one happened to fail, the Boa dials are replaceable too. They're far from a cheap option but they successfully fill a niche for riders who want a shoe that blends walkability and XC performance. **MBA**

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# ASSOS T.Rally Shorts

Premium clothing manufacturer Assos has launched a dirt-specific clothing line that incorporates some unique features.

**S**wiss clothing manufacturer Assos have been around since 1976. They started out making pioneering carbon fibre frames before moving onto making shorts. In fact they claim to be the company that invented tight fitting lycra bike shorts.

Over the years Assos have made quite a name for themselves. Within road circles they are sometimes referred to as 'the shorts company' and their top-shelf shorts are widely regarded to be the ultimate strides for slaying the tarmac. The other thing Assos is known for is its five star gold inlaid pricing. Their kit comes at a premium; they are the Rolex, the Leica, the Maserati of cycling clothing.

Assos has its roots firmly set in road cycling, and although their kit has been worn off-road with great success by the Swiss national team, they've never made a mountain bike specific range—until now that is. After

getting involved with the South African Cape Epic event, Assos decided to produce some off-road inspired summer kit; the Rally jersey and shorts.

I went along to the Assos HQ in Switzerland to attend the launch of their all-new T.Rally shorts. There was little pre-release info available, but being Assos we guessed that they would not be baggies and that they would be expensive—we were correct on both fronts and these bib-knicks will sell for around \$445.

## DESIGN DETAILS

We're told that Assos did not want to rush into the mountain bike market. Apparently these garments took some three years of testing and tweaking with around 80 different incarnations before they were released. This demonstrates the sort of attention to detail behind the



Assos product and in part explains their pricing.

The T.Rally is clearly different to your run of the mill cycling short. They have a relatively low-cut waistline combined with some heavyweight bib-straps—worn without a jersey they could pass for lycra lederhosen. The low cut is said to support in the lower abdomen whilst allowing better airflow and greater freedom to move than your more traditional high-cut bib knicks. Unique to the MTB shorts, they come with two hip pads that slip into the internal hip pockets.

Pick these shorts up and you can immediately feel the quality; they are real heavyweights with thick materials and industrial strength stitching. Inside is a smooth and adequately padded insert. Interestingly the pad is not fully stitched in place—according to Assos this allows air flow between layers and keeps the pad up against your body.

Optional slip-in pads offer some added hip protection and the low cut waistline helps to keep you cool.

Size wise they seemed to be on the small side. I typically wear an XL in most brands but would choose an XXL in the T.Rally. The fit is clearly tailored towards the XC racer rather than someone who sports an eight-pack like myself. For me the 'hipster' style cut was snug and supportive before cutting loose just above the waist. While this felt a little strange to me, I can't see it posing any issues for someone with a trimmer bod. The bib straps worked well and didn't cause any chaffing but some form of adjustment for differing torso lengths would have been a worthwhile addition.

## HITTING THE DIRT

Once on the trail there's no quibbling with the quality and below the waist comfort offered by the T.Rally; they are silky smooth and made for all day riding. It's also very clear that they are made to last with robust fabrics and solid stitching. As for the polyurethane foam hip pads, they were unobtrusive enough and should offer a bit of added protection. While that's great, we also feel that the rider who's interested in added protection is more likely to be wearing baggy shorts. At least the T.Rally now offers some discrete protection for the XC crowd and those who prefer to wear straight lycra, although thought of potentially crashing and burning these shorts makes the price even harder to swallow.

There's no hiding from the fact that \$445 is a heck of a lot to pay for a pair of shorts but if you're an Assos fan and can splash the cash, these are quality strides that should deliver many years of comfortable riding. **MBA**

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Includes UTL-6BK, spec as above  
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### USL-5R

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Up to 10 hrs (Low)



# Tune Speedneedle Saddle



With its semi-padded design, the Speedneedle is certainly a unique looking saddle.

**T**he Tune Speedneedle is a super light and rather curious looking saddle. Ours was the wider 'Marathon' variant and it weighed just 103g. Most superlight fully padded carbon fibre saddles are 40-50g heavier.

Of course the Speedneedle isn't 'fully padded' but that's the real talking point. Only the nose and tail of the Speedneedle are covered and the mid-portion is totally devoid of padding. While the shell does offer some flex it's still stiffer than most nylon or nylon/carbon blended saddles.

I removed my padded 175g carbon railed saddle and fitted the Speedneedle Marathon, thinking that it'd only be a

short-term exchange. There's no denying that the saddle feels 'different' but once I got myself in the right spot, the Speedneedle was comfortable enough that it went by unnoticed. The harder central section only became apparent when sitting forward on steep climbs. The rest of the time I didn't really notice the Speedneedle, and that's quite a complement—it's nowhere near as uncomfortable as I'd initially expected.

Compared to the other saddles in my collection, the rails are placed 10-15mm closer to the nose of the saddle. This can make it harder to get the saddle forward enough but it really depends on your individual bike setup. The carbon rails are wrapped in kevlar and proved durable but

their ovalised profile won't work with some seatposts. Finally, the leather covering is quite soft and scuff-prone; a clear issue for MTB applications. That said, Tune offers a re-upholstery service which returns any well-worn Speedneedle to as-new condition.

At \$325 the Speedneedle is undeniably expensive but roughly on par with other full-carbon saddles. It can easily lop 100g or more off a typical lightweight saddle, and while some super minimalist offerings can be a right pain in the rear, this piece of German made exotica proved to be quite a viable option. **mba**

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# X-fusion Microlite Shock



**A**s the name suggests, the Microlite shock is designed with weight reduction in mind. Our 184x44mm sample hit the scales at 195g saving around 50g when compared to a regular inline shock.

X-Fusion makes a wide range of suspension components and most are very adjustable. The Microlite however is a pared down and simple offering. The main air spring is tuneable (as you'd expect) and the rebound

can be set to match the spring rate. There's also a lockout lever but that's about it. You won't find any low speed compression adjustment or threshold settings—it's either 'on' or 'off' and nothing in between.

Compared to the current generation Fox Float rear shock (a product that many will be familiar with), the Microlite has an inherently progressive spring curve. It starts out supple but ramps up to offer plenty of bottom-out resistance.

Of course your frame kinematics will always play an important role in how a shock

feels. Most shorter travel XC bikes tend to have a linear or regressive leverage ratio. This makes them firmer in the early travel while still moving for mid-sized bumps but it doesn't afford lots of bottom out resistance. The progressive nature of the Microlite is well suited to this type of bike; it adds suppleness over smaller bumps but doesn't slam to the bottom or wallow excessively when pushed. Despite its diminutive size I had no issues with the shock on long and rough descents—it performed very well. However, if your suspension arrangement is progressive to begin with,

you mightn't use all of the available travel—even on the biggest hits. With the Microlite there aren't any large volume air canister options; it simply isn't as tuneable as a heavier, fully featured shock.

At \$480 the Microlite is well priced for a high quality rear shock and its performance should provide a good match for most modern XC platforms. It's worth considering if you're focused on weight reduction and happy to forgo some tunability. **MBA**

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# Whitsunday wheeling

Fiona Harding ventures beyond the beach resorts and discovers a diverse range of new MTB trails in and around Arlie Beach.

Photography by Fiona Harding

**W**

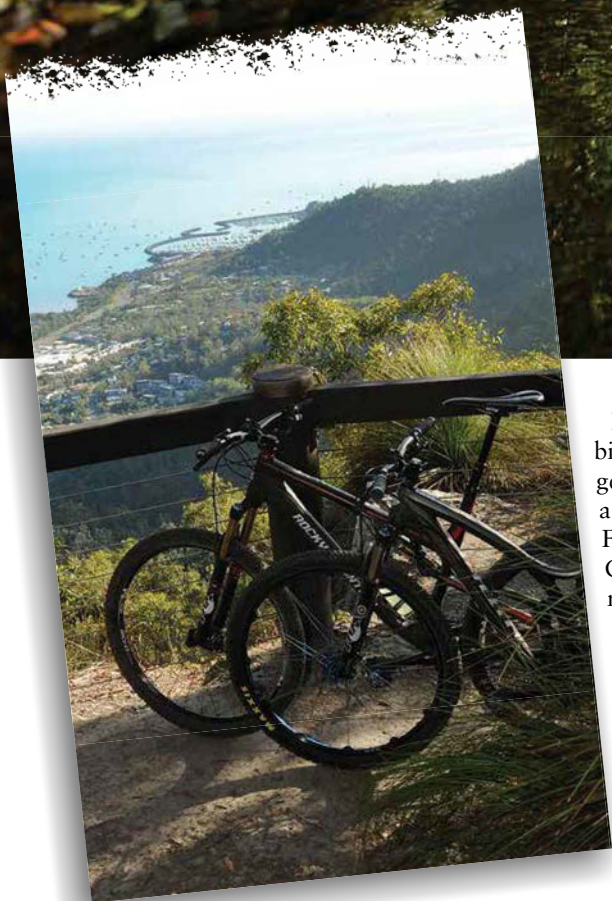
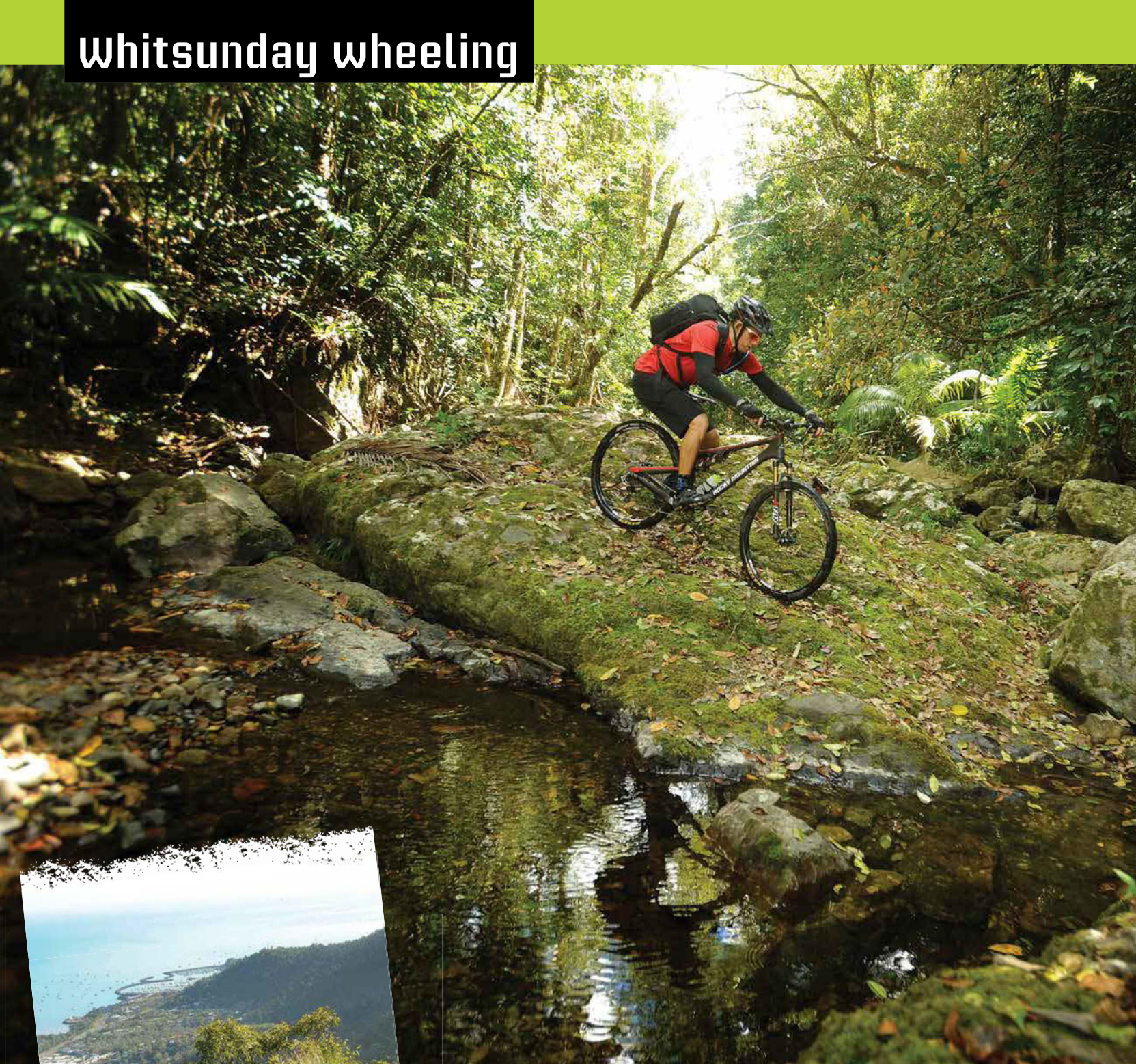
hen people think of Arlie Beach, it usually evokes images of sailing, snorkelling, scantily clad backpackers and beaches that stretch for miles with emerald islands glistening like jewels. But the Whitsundays has a little secret that's gotten out, and word is travelling quicker than a downhill on a Strava run.

MTB trails are being developed and there's something for everyone; from a relaxed family pedal through to tough and challenging trail rides. Top it off with some jaw dropping scenery and this part of North Queensland really is a must-visit location. There's no shortage of activities for any non-biking companions, so you know they'll be happy while you shred the trails.

For Townsville locals like myself, the Whitsundays serves as a southern playground and we recently loaded the car and took the three hour drive down the Bruce Highway to explore the tracks of Airlie Beach. Luckily my other half loves mountain biking too, so a week in Airlie to ride the trails was a no brainer. I'd been itching to hit the Conway Circuit – formally known as the Great Whitsunday Walk – as I'd heard so many mixed reviews; everything from 'it's unrideable and you'd be mad to go there' to 'it's totally awesome!'



# Whitsunday wheeling



First up we popped in to the local bike shop – Ride Whitsundays – to get an update on the trail conditions and the best way to tackle the ride. From there it was on to the Big4 Airlie Cove Resort and Caravan Park; it's relatively central, mountain bike friendly and allowed us to get a good sleep before hitting the trail first thing in the morning.

## CONWAY CIRCUIT

The Conway Circuit is a great adventure for hikers and mountain bikers alike. It's an epic 28km point-to-point route situated within Conway National Park; a

peaceful coastal park that overlooks the Whitsunday Passage. Overall it's quite a difficult trail that's better suited to experienced riders. Littered with sweet singletrack and rugged fire trail, it's listed as a black trail or grade-four under IMBA standards.

The ride should take around four to five hours to complete, although much will depend on the time spent absorbing the stunning landscape. You'll travel through rather remote country, so be prepared. You need a good snack or two, and three litres of water—we packed a full lunch to make the most of our stops in the forest. You'll also need a spare tube, bike tools and a first-aid kit. Make sure you let someone





**CLOCKWISE FROM OPPOSITE PAGE:** While there's tons of climbing on the Conway Circuit, you're well rewarded by the views.

Rock slab creek crossings on the Conway Circuit.

Soaking in the scenery on South Molle Island.

The Scamper water taxi drops you right on the beach at Molle Island.

**PREVIOUS PAGE:** Singletrack on the Conway Circuit.



know where you are going too. Water is available at campsites along the way but it should be treated. Mobile access is limited so don't rely on it!

We tackled the ride from the Kara Crescent trail head at the Airlie Beach end of the ride; doing it this way gets the big climb out of the way early on when your legs are fresh. Head right to the top of the Kara Crescent—any map or smart phone will get you there. At the end you'll see a set of steps; that is the start of the Conway Circuit. The first part of the climb is a major slog and there are alternative routes up the hill—drop in and see Chris at Ride Whitsundays for the lowdown.

There's a lot of climbing early on, so knock it into the granny gear and keep your legs spinning. Don't be disappointed if you're forced to push—only an elite handful can clean this climb. Your efforts will be rewarded with some breathtaking views and fantastic singletrack that flows through the pristine forest.

Ulysses Butterflies flutter around and the dense tree top canopy brings welcome shade from the North Queensland sun. Keep an eye out for bush turkeys and Proserpine rock wallabies. It's certainly worth taking a side trip to Honey Eater lookout too. This track snakes over tree roots and leaf matter finishing with

amazing views over Arlie Beach and the Whitsunday Islands.

There's some more climbing once you re-join the main trail after the lookout detour. Of course what goes up must come down and it won't be long before you hit the extremely rewarding descent. From there the trail undulates with a few creek crossings and large exposed rocks to keep things interesting. The creeks can be great for a mid-ride cool down, although be aware that flash flooding can occur with tropical downpours. Stick to the mesh areas along the track and only cross the creeks if it's safe to do so.

At the 20km-mark the trail eases off with a gentle green trail climb. I have



# Whitsunday wheeling

While the Molle Island trails aren't technical, the views are terrific.

BELOW: The slippery rainforest trails offer some respite from the heat on the Conway Circuit.



to admit I found this one of the hardest bits and my legs were screaming—perhaps I was paying the price for my efforts on the big opening climb. You'll finally emerge near Brandy Creek and the loop is completed with a 10km pedal along the bitumen back into town. We finished with some fabulous food and a few beers at Mr Bones Restaurant near Airlie Lagoon.

The trail can be done in the opposite direction too; by all accounts the ride is equally awesome but don't burn all your candles too early, as the big climb (around 400 vertical metres) is in the latter half when you reverse the loop. If you're not up to tackling the full circuit, you can always ride in and back out from either end.

## CONWAY PICNIC TRACKS

After tackling the Conway Circuit, the Picnic Tracks are a nice way to spin the legs out, have a barbeque and just chill. Head south along Shute Harbour Road and just past the airport on the right hand side you'll find the Conway Picnic Area. This is the starting point for the Conway Coastal Fringe Circuit and the Hayward Gully Tracks.

The newest addition to the Airlie beach trail network, these routes are relatively flat

**"ULYSSES BUTTERFLIES FLUTTER AROUND AND THE DENSE TREE TOP CANOPY BRINGS WELCOME SHADE FROM THE NORTH QUEENSLAND SUN."**

and cater to kids and novice riders. You'll find drop toilets, electric barbeques and picnic tables at the trail head, so it's a great place for a family day out. The Coastal Fringe Circuit is 1.2km. Linking it to the Hayward Gully Track will stretch it out to a 3km ride. There are a few little obstacles along the routes that newbies may want to walk their bikes over but overall it's nice and tame. Take your own water and insect repellent and be aware of other riders as it's a multi-directional trail.

## SOUTH MOLLE ISLAND

After checking out of our accommodation it was time to spend a few nights on beautiful South Molle Island. It's 10km off the coast and accessible only by boat. The island has an array of tracks that are open for both walkers and mountain bikers.

Our backpacks were brimming with camping gear as we rolled our bikes onto the Scamper Ferry. The Sandy Bay

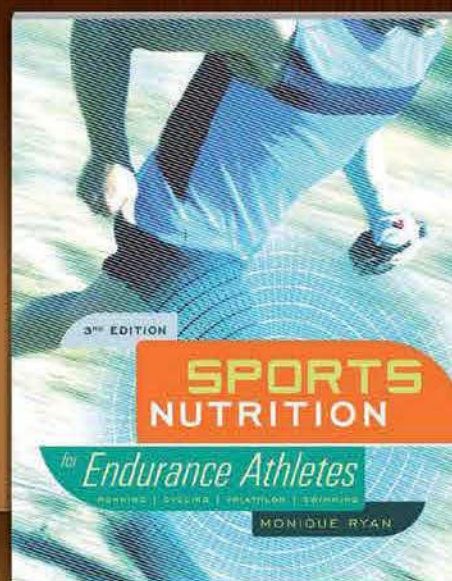
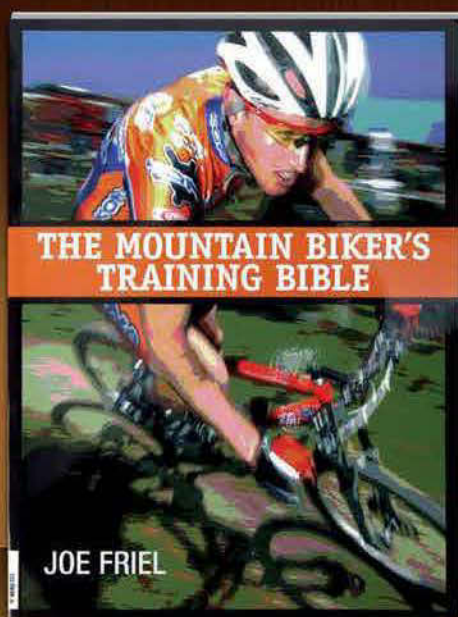
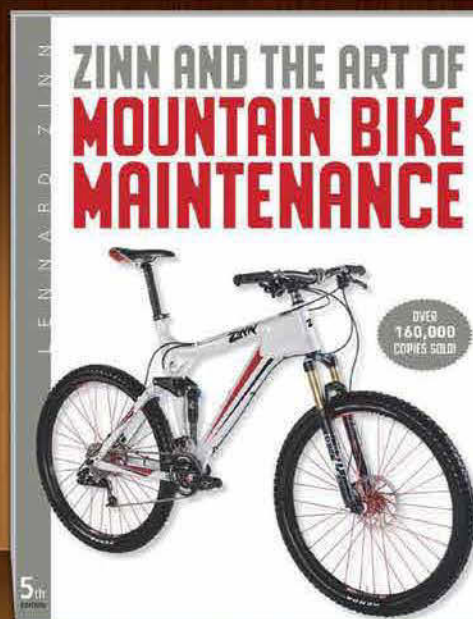
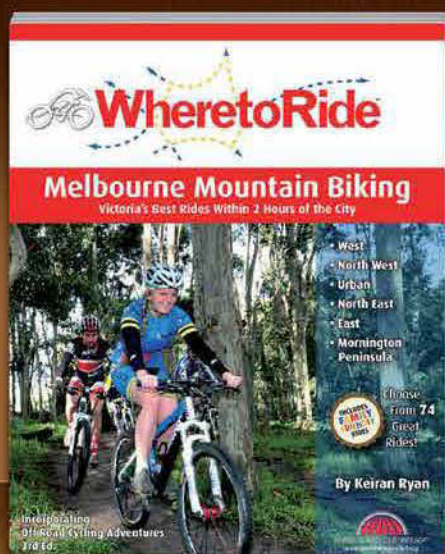




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Camping at South Molle island

campsite was set to be our home for the next few days and the ferry drops you right there. It's a well set out campsite with drop toilets and picnic tables but there's no drinking water. The Scamper Water Taxi provides each person with 5L of water per day but make sure you take enough to remain hydrated.

South Molle is a stunning spot with white sandy beaches, pockets of rainforest and crystal blue waters. It's also a wildlife refuge and a scenic retreat for nature lovers. There's approximately 14km of trail on the island which includes both fire trail and singletrack.

All of the trails are rated as green under the IMBA guidelines, so the riding is pretty relaxed with no scary obstacles. The trails lead to lookouts at Spion Kop, Lamond Hill and Balancing Rock. You can even pedal up to Mt Jeffreys; the highest point on the island—it stands at 200 metres above sea level but the climb is relatively gradual and well worth it for the views. While the trails are relatively non-technical, the undulating terrain offers a nice flow that makes for enjoyable riding.

Aside from the riding, South Molle is a great location for swimming and snorkelling with a multitude of reefs fringing the island. There's also rainforest to explore and kayaks available to hire ([www.saltydog.com.au](http://www.saltydog.com.au)).

With its easily accessible MTB trails, spectacular scenery and a wide range of activities on offer, South Molle is a great place for a nature based family camping getaway. Wrap it up with the challenging Conway Circuit on the mainland and there's something to keep everyone entertained! **MBA**



Make sure you drop in and see Chris Labes at Ride Whitsundays to get a lowdown on the trails.

## General Information

### GETTING THERE

There are direct flights to Arlie Beach from most capital cities. It's a small place, so you can ride to all the trail heads without being an elite rider (with the exception of South Molle Island of course).

Alternately, you can fly to Townsville or Mackay and grab a hire car. Arlie Beach is 275km (approximately 3.5 hours) south of Townsville or a two hour drive (150km) north of Mackay. Hire cars can be arranged for pick up at any of the airports so you can save your legs for the trails.

The sea taxi trip from Arlie Beach to South Molle Island costs \$65 return and this includes 5L of drinking water for each day that you're on the island. While you need a camping permit if you're planning an overnight stay, the trails are free for anyone to use.

The campsites on South Molle are run by the National Parks and Wildlife Services. Each night costs \$5.75 per person or \$23 for a family group. Book via the Queensland National Parks website and once you have secured your campsite, contact the Scamper water taxi to arrange your travel and times.

[www.nprsr.qld.gov.au](http://www.nprsr.qld.gov.au)

[www.whitsundaycamping.com.au](http://www.whitsundaycamping.com.au)

You can also hire kayaks and camping gear with Scamper, so if you are flying and need to travel light they have you covered. Secure parking is available if you have a car. This is located at Shute Harbour—prices vary depending on length of your stay.

### WHEN TO VISIT

From March until the end of October is the best time to visit the tropics. It's warm all year round and winter is a magic time to visit. Summer is best avoided; monsoonal rain can swell the rivers making many of the tracks impassable and dangerous.

### ACCOMMODATION

There are tonnes of accommodation options to choose from in Airlie to suit a wide range of budgets. The Big4 Airlie Cove Resort and Caravan Park is mountain bike friendly, so you don't have to smuggle your money pit in under the cover of darkness. They are

currently upgrading their facilities to cater for mountain bikers including a bike wash bay. It's situated on Shute Harbour Road in Jubilee Pocket. It's just outside of town but central to all trail heads.

[www.airliecove.com.au](http://www.airliecove.com.au)

### FOOD

Stop at Whitsunday Gold Coffee Plantation opposite the Airlie Beach/Shute Harbour Road on the Bruce Highway, just one minute north of Proserpine. This gem will allow you to stock up on locally grown coffee to keep you going after a hard day in the saddle. [www.whitsundaygold.com](http://www.whitsundaygold.com)

Dine at Mr Bones Pizza and Tapas Bar, situated by the lagoon (263 Shute Harbour Road) in Airlie Beach. It's a favourite with the locals offering terrific meals and boutique beers. It's best to book a table in the evenings by calling 0416 011 615.

### TRAIL INFO & BIKE SUPPLIES

On arrival in Arlie, the first thing you should do – apart from checking into your accommodation – is visit Chris Labes at Ride Whitsundays. Located in the Whitsunday shopping centre (226 Shute Harbour Road), Ride Whitsundays it's the only bike store in Airlie—the next closest shop is in Mackay.

An absolute mountain biking guru, Chris knows all the top trails. She's not only an elite mountain biker but also a triathlete, MTB club president and advocate for building more mountain bike tracks throughout Airlie. The shop has plenty of spares, nutrition and other bike bits in case you forget something.

Check out their web site at [www.ridewhitsundays.com.au](http://www.ridewhitsundays.com.au)

### EVENTS

In late September each year the Whitsunday Mountain Bike Club runs a two-day event called 'The Dirty Molle Island Escape'. It is a social overnight camping trip with rides both on the mainland as well as on South Molle Island. For more information on this and other events go to the Whitsunday Mountain Bike Club website or

[www.dirtymolle.com.au](http://www.dirtymolle.com.au)

[www.whitsundaymtbc.com.au](http://www.whitsundaymtbc.com.au)



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**0024**

TRAIL/ENDURO



Lester Noble - half of the double act behind Orange Bikes.

Orange Bikes has been in business for over 25 years and they are still being made in the UK. Steve Thomas spoke to co-founder Lester Noble to see what makes them tick.

## Clockwork Orange

**C**ompany names are sometimes strangely thought out things. They often carry a deep or personal meaning from the founders, and may be debated and thrashed out over weeks or even months. In some cases the name will be on a scratch pad before the company concept is figured out.

Branding can make or break a company, so how did British bike builder Orange come up with such a simple yet effective name? "We'd already got the company ready and the bikes were in the works. We were really up

against time and had less than a day to come up with a name," Lester Noble recounted. "I like abbreviations, and we'd already been talking about our bikes being the 'off-road range' so that was it; the O-range, which came out as Orange."

Lester is one half of the Orange double-act and back in 1988 he partnered with Steve Wade to launch the brand. Their first bike was the Clockwork, named after the 1971 Stanley Kubrick film and they still have a model by that name in the line-up.

The seeds of Orange had been sewn a few years earlier. "I was part of the Tushingham Sails business and had sailed and windsurfed competitively in the Lake District for years.

I took up mountain biking as a way to keep fit during the winter." Lester was actually an international level sailor.

It was a chance encounter that lured him into mountain biking. "Back in 1984 I was driving through Pateley Bridge in Yorkshire and saw some cars with bikes on top. They had knobbly tyres—I thought that looks like fun, so went out and found one."

Some of his early rides were taken with long-time friend Steve Wade, and the pair became gripped by the sport. "I was putting a lot of time into training and in 1987 I went to the first World Championships. I finished 29th and best Brit, it was Ned Overend that won."

By that stage Lester was

already designing his own bikes. "We had a couple of early Muddy Foxes. While they were good, around 80% of their customers were in London, so the bikes were becoming more commuter style with 74-degree angles and so on. I didn't think this worked well off-road—you need a more relaxed bike, even for racing."

Not long after he decided to put his ideas to the market. "I had some bikes made up locally and started selling them under the Tushingham brand. After a while I decided to leave Tushingham and go it alone." Thus the Orange partnership came to fruition, "He had just taken over his dad's sheet metal business in Halifax and that gave us the basic engineering backup."





While Asian manufacture may be cheaper, Orange remains committed to UK based production.

## GROWING ORANGES

From the outset Orange established themselves as solid players in the UK mountain bike market. “We used to go and ride most of the regional and national races. People saw our bikes and started to ask for them. From the outside it looked like a big team, but in reality it was just a big bunch of mates riding bikes together.”

The early crop of Orange bikes was a huge success. “We started with one frame, and then we introduced another made from Tange Prestige tubing (it was called the Prestige). At that time there were two Shimano groupsets on the market; XT and DR. Then they came out with LX and renamed the DR group to DX. This allowed us to offer six custom options with our two frames.”

## MATERIAL GAINS

From the outset, the principal design work had come from Steve Wade. With an engineering background and an insatiable appetite for trails, he was constantly honing and tweaking the range. In 1991 Orange produced their first aluminium frames. “We came up with the Aluminium O, which gave us three more bikes in the range.”

Steve had many years of experience in sheet metalworking and this was applied to create their distinctive ‘monocoque alloy’ designs—something that carries through to the current Orange line up.

## NEW FORMULA

During 93/94 they released their first full suspension bike; the Formula. By 96/97 we’d introduced the 628, a six or eight inch travel adjustable suspension design—that bike was basically the father of all the present day Orange bikes.”

Through the late ’90s Orange sponsored the Animal downhill team and also helped a fledgling South African junior who was making his way on the UK scene—Greg Minnaar.

“Around 2000 the Global Racing team formed and they had some big Japanese financial backing. At the last minute their bike sponsor pulled out, so they asked their riders what they wanted to ride. Greg Minnaar said he wanted the Orange 222 and his teammates agreed. Their budget was such that that they even helped us develop the bike further—it was great for us.”

With names like Minnaar, Tracy Moseley, Mick Hannah and Steve Peat on-board, it was great for their profile. “Through their success the riders became worth more than we could offer them,” Lester explained. “When they eventually went elsewhere we decided to focus more on our trail and XC range.”

## ORGANICALLY GROWN

Mountain biking has changed hugely in its short lifespan, and Orange has evolved with it. “It’s not been easy of late, with the three different wheel sizes being debated over. It seems that most manufacturers have settled on 650b; although we are still keeping 29ers in the range, as we believe they have

**“WE SELL AROUND 5-6,000 BIKES A YEAR, AND HAVE DONE AROUND THAT NUMBER FOR MANY YEARS. ABOUT 20% OF THEM ARE MADE IN TAIWAN, THE REMAINING 80% ALL COME OUT OF OUR FACTORY IN HALIFAX.”**

merit. It looks like the 26-inch wheel is almost forgotten, or soon will be.”

While Asian manufacture may be cheaper, Orange remains committed to UK based production. “We sell around 5-6,000 bikes a year, and have done around that number for many years. About 20% of them are made in Taiwan, the remaining 80% all come out of our factory in Halifax.”

“Our average frame cost is about double what it would be if we made it in Taiwan, but UK building does have its positives. We are able to tweak things when we want, and to evolve the design much faster than others. We’ve not followed the regular manufacturer’s suit of putting out new models all at the same time; we only release something when it’s ready.”

“Our factory needs to work at the same rate year-round; we’re not in the ‘hire-em and fire em’ business, so we make the same number of bikes in winter as we do in summer.

## FUTURE PROOFING

Recently carbon fibre has become the

material of choice for many manufacturers. Orange is considering it but remains cautious, “We brought out a carbon road bike a couple of years back, made outside, and we weren’t happy with the lack of control we had over the build process, so we have been working on our own carbon frames. We’re about two years away from being able to produce our own UK built carbon frames, although that’s not to say that we will.”

“We’re just not sure it’s the right material. Unlike aluminium, where you usually see a crack or a ripple before failure with carbon it happens internally. You don’t know until it happens, and it’s usually a catastrophic failure. There is still a strong band of riders that will not ride carbon—especially for long travel and enduro riding. We’ll need to see how our trials pan out.”

Meanwhile both Lester and Steve continue their home grown development process. “I ride three or four times a week while Steve rides almost every day. With Steve it’s always epic all-day rides in serious terrain.” Although the names of the bikes may stay the same, they’re always evolving. “Take the Five for example; in 13 years it’s seen around 20 significant changes.”

With more and more small brands moving their production to Asia, it’s refreshing to see a brand sticking to in-house manufacture—we really hope it works out for them. **MBA**



Everything from welding to painting is done locally or in house.



# Enduro Bike Check

With an all-star line-up, the RockShox Enduro Challenge at Mt Buller was a great opportunity to see what some of the world's best riders are using for gravity enduro racing.

## JARED GRAVES

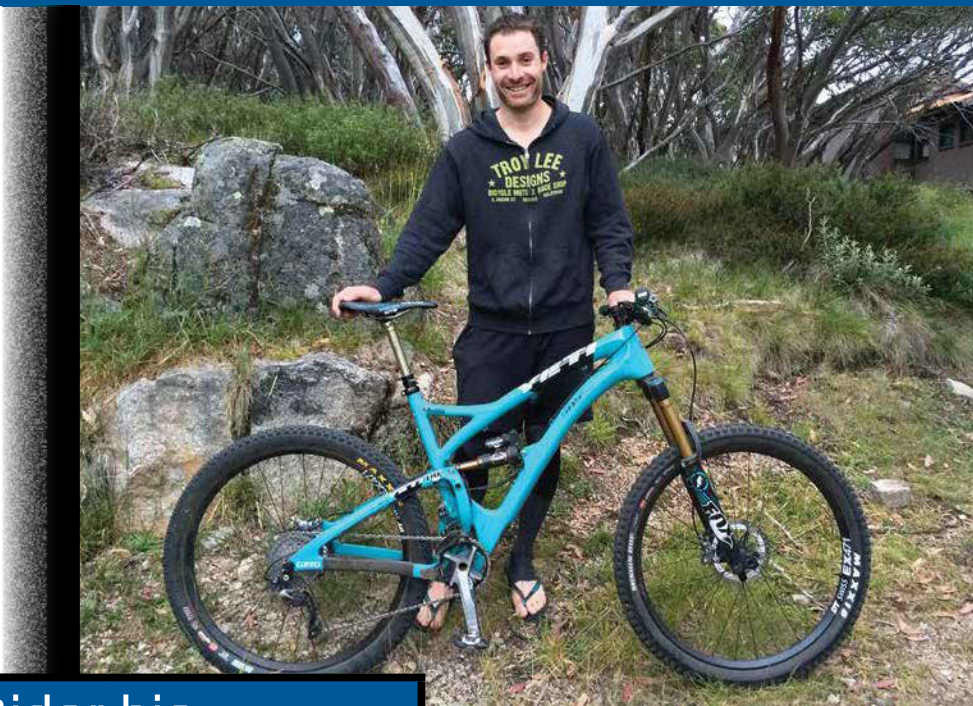
As the reigning Enduro World Series Champion, Graves is currently the man to beat—and that doesn't happen very often. Despite the sharp competition at Mt Buller, Graves won five of the six timed stages (he punctured in the sixth stage) and took a comfortable overall win.

When it comes to defending his World Series title for 2015, Graves expects to be riding the 152mm travel Yeti SB6C at most events, but for Buller he was on a SB5C. This is his off-season bike; Graves feels the 127mm platform better suits his home trails in Toowoomba, and he also felt it was the most appropriate choice for Mt Buller. With less travel than the SB6C, it's more agile and fun on tight and twisty trails.

While it's short on travel at the back, Jared chooses to run a 160mm travel Fox 36 fork up front. He started out with the stock 140mm fork but wanted a slacker head angle with a taller front end. Now with the 36 fitted, he's got a 65.8-degree head angle along with the greater steering precision from the bigger fork. Jared also says that he generally prefers a bit of extra travel up front and notes that it lengthens the wheelbase and lifts the bottom bracket a touch; "It gives me all the awesome little things that suit my style better than the stock setup."

As for running such a big fork on a lightweight trail bike (the frame itself is XC weight at just 2,310g), well the axle to crown height of the 160mm Fox 36 is actually less than a 150mm travel Fox 34, so this combination is deemed acceptable by Yeti. Apparently Jared tried this setup first on the SB5 and now all the bosses at Yeti are sporting similar setups. Overall he says it makes the bike more capable on the big stuff without really affecting its efficiency.

Jared likes to shed a few grams wherever possible, and at 12.5kg as pictured his SB is impressively light. However come race season, his mechanic Shaun Hughes has a big say. Shaun acts as his 'voice of reason' and turns him away from any potentially risky component choices. Between them they are a well-oiled team and 2015 looks set to be another big year for the talented Aussie all-rounder.



## Rider bio

Age	32
Born	Toowoomba, Australia
Height	178cm
Weight	79kg
Main Sponsors	Yeti, Fox, Monster Energy, Oakley
Career Highlights	<ul style="list-style-type: none"> <li>• 2014 Enduro World Series Winner</li> <li>• 2009 4X World Champion</li> <li>• 3<sup>rd</sup> 2013 DH World Championships</li> <li>• 2<sup>nd</sup> 2006 BMX World Series</li> </ul>

ABOVE: Jared should be on a medium SB5 if you go by Yeti's sizing recommendations but he prefers the large frame for its added reach—it provides plenty of room to move, even with a short 50mm stem.

1. This bike has the standard Thomson dropper post lever but come race season he'll use a modified XTR shift lever to do the job. Due to the internal routing, mechanic Shaun Hughes has pre-cut the wire to length and solder a new fitting on at the gear lever end. The carbon Renthal Fatbar is 740mm wide and he's running the lighter 'Race' version of the XTR brakes.

2. Reverse mullet style; short travel at the rear and party time up front with a 160mm Fox 36 fork. The DT Swiss EX 471 rims are tubeless ready with a 25mm inner width. They are built with 28 DT Aerolite spokes for a lightweight but suitably sturdy wheel setup.

3. Graves is a self-coached cyclist and he takes a very serious and analytical approach to his riding with Stages power metres fitted to most of his bikes.

4. At this stage his Di2 electronic hadn't arrived, so this bike had 10-speed XTR with a single 34T Black Spire chainring and an 11-36 cassette.



1



2



3



4





RIGHT: With a 434mm reach, the medium Jekyll is on the large side for Jerome's 169cm height but he prefers the roomier feel when running a relatively short 50mm stem. Naturally he uses his own design Truvativ Clementz carbon bar—it measures 750mm wide.

## Rider bio

Age	30
Born	Buhl, France
Height	169cm
Weight	64kg
Main Sponsors	Cannondale, SRAM, Troy Lee Designs
Career Highlights	<ul style="list-style-type: none"> <li>• 2013 Enduro World Series Winner</li> <li>• Winner Megavalanche (Alpes D'huez) in 2005, 2010 and 2013</li> <li>• 6<sup>th</sup> European Downhill Championship 2001</li> <li>• 10<sup>th</sup> Junior Downhill World Championship 2002</li> </ul>

## JEROME CLEMENTZ

The concept of gravity enduro is simple enough; you head out for a ride with your mates, have a chat as you pedal up the hills, then race your buddies for bragging rights on the descents—it's simple enough and many of us have been doing it for years.

What's relatively new for Aussie riders is the concept of racing this format. While we are steadily getting a handle on it, the French have been racing this format for more than a decade. And the biggest name in enduro racing is (arguably) Jerome Clementz. The diminutive Frenchman has been winning enduro-style events since 2001 and took the title in the inaugural Enduro World Series.

Over the years Jerome has dialled his bike setup for enduro events and it features a few neat custom tweaks. He's also involved in product development for a number of sponsors and his Cannondale was fitted with a number of prototype parts. At just on 13kg his Jekyll is pretty light for a 160mm bike with a dropper post (especially when you consider he's running 1kg tyres), and this setup is reliable enough to run all year round on any course. The only tweaks come with tyre/wheel selection and chainring size.

1. The Jekyll features two travel settings; 95mm or 160mm. These modes are usually swapped via a bar mounted lever but Clementz employs a left-hand grip shifter instead—he finds it easier to use. The Reverb dropper post lever is underneath on the left side of the handlebar and Jerome also runs his brake levers up a bit higher than most (i.e. not angled down as much); he feels this works better on steep descents.
2. At a glance they may look like Guide brakes but they are yet-to-be named SRAM model that Jerome is testing. The four-piston calliper is different to the current Guide and the lever blade is carbon. We can only guess at what they are working on as Jerome wouldn't let any secrets slip. Aside from that he runs 180mm rotors all round and was using a pair of spacers under the front calliper rather than the regular one-piece adaptor.
3. The XX1 cranks are fitted with SRAM's new direct mount chainring. It saves around 50g over the regular chainring/spider combo and Jerome says it's a bit stiffer too. It also makes chainring swaps much slower but that just keeps the team mechanic entertained! He typically runs a 34 ring when there are XC style liaison stages (like Mt Buller) and fits a 36-tooth chainring for events with lift assistance.
4. The Michelin Wild Gripper tyres have a prototype compound; it's meant to deliver consistent performance whether it's hot or cold. For reliability he always runs downhill casing on his tyres. Most of the time Jerome uses the alloy Roam 50 wheels with a 21mm internal rim width. Sometimes he opts for the Rail front wheel (23mm internal) but prefers to have a skinnier rim on the rear. "I've tried wider rims but they're heavier and I feel they are less precise for racing—for me the wider rims are more for trail riding and comfort due to the larger air volume that they provide."







## Rider bio

Age	29
Born	Perth, Australia
Height	175cm
Weight	75kg
Main Sponsors	CRC Nukeproof, Mavic, Monster
Career Highlights	<ul style="list-style-type: none"> <li>• 1<sup>st</sup> 2014 Mont St Anne World Cup DH (Canada)</li> <li>• 1<sup>st</sup> 2014 Meribel World Cup DH (France)</li> <li>• 2006, 2007 and 2010 World Downhill Champion</li> <li>• 2002 Junior Downhill World Champion</li> </ul>

LEFT: Sam runs a relatively stock 160mm travel Nukeproof Mega AM. With plans to compete in some EWS events he may pick up on a few bike setup tricks along the way but he openly admits being pretty new to this side of the sport. "The stock bike just works and it's all I know at this point." As pictured Sam's bike weighed in at 14.3kg—a good kilo or so more than the bikes ridden by enduro specialists like Graves and Clementz.

## SAM HILL — NUKEPROOF MEGA AM

In the world of mountain biking you'll struggle to find a bigger name than Sam Hill. It may be a few years since he's won a World Championship title but for a few years there he dominated the sport of downhill like no other, winning World Cups by 10 or 15 seconds when there's normally fractions of a second separating the top contenders.

After winning two World Cup events in 2014, Sam's prime focus remains on downhill but he also has plans to compete in some gravity enduro events this year. "We're doing four Enduro World Series events; the first two and the last two. They look like fun events and it'll help with fitness for downhill as well as getting some extra coverage for the team."

Sam also kicked off the year by doing a few National Series XC races. "It's not often that Western Australia gets a national round, so I wanted to go and support it. Besides, it grows old doing the same thing over and over, so it's always good to mix things up. I'm certainly keen to give enduro a good crack at the races that I do."



1



2



3



4

1. With an alloy frame and a simple single pivot suspension system, this bike shows that you don't need the latest in high-tech plastic wizardry to create a competitive MTB.
2. Flat pedals win medals in downhill and Sam sees no reason to change for gravity enduro racing. There was certainly lots of pedalling at Mt Buller and he placed fifth, so I doubt his pedal choice was an issue.
3. Nukeproof branded parts feature throughout with 750mm wide alloy bars and a 50mm stem. The Reverb dropper remote resides underneath the bars on the left hand side; the best place to put it if you're running a 1X drivetrain.
4. You'd expect somebody like Sam to be gifted with all of the best gear but his bike was running an X1 derailleur from SRAM's more affordable 1X11 groupset.



## Rider bio

Age	21
Born	Adelaide, Australia
Height	171cm
Weight	67kg
Main Sponsors	Specialized, Monster Energy, Spy
Career Highlights	<ul style="list-style-type: none"> <li>• 2010 and 11 Junior Downhill World Champion</li> <li>• 1st 2014 Fort William World Cup DH (UK)</li> </ul>

### TROY BROSNAN — SPECIALIZED ENDURO

At just 21, Troy already has two World Championship downhill titles to his name and last year he won his first World Cup in the senior ranks—we bet it won't be his last.

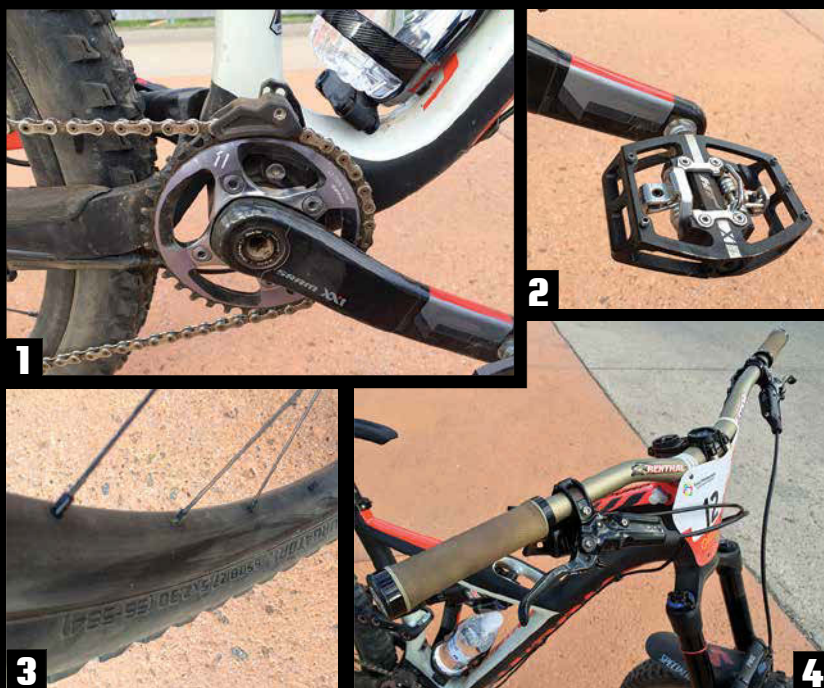
This year he will be racing a couple of Enduro World Series events as they are good training for downhill. Troy also mentioned that Specialized wants the downhillers to mix with the enduro guys to help progress that side of the sport.

"I'm somewhat interested in enduro but I wouldn't consider crossing over until much later in my career, but it's good fun and good training." Enduro may just be training for Brosnan but there's no doubt he's got the talent and fitness to perform. He placed second behind Graves at Mt Buller and beat all of the other enduro specialists. **MBA**

1. It seems that all the top riders run a single chainring setup and the vast majority have a top guide fitted. Troy's bike had a very tidy little guide that mounts to the front ISCG tabs—apparently it now comes as a stock inclusion on the Enduro models. Also note the Specialized EMT tool tucked underneath the bottle cage—a handy way to ensure that you're never caught without a mini-tool on the trail.
2. The HT X1 pedals are another component choice that's shared with his DH bike. They feature a large and flat platform with five replaceable pins—not unlike a proper flat pedal. Once clipped in they provide plenty of retention force to avoid unwanted release.
3. While many pro riders seem to be opting for conservatively narrow rims, Troy is running Roval Traverse SL Fattie wheels. They are 30mm wide internally and feature a hookless design. Thanks to the carbon rim construction they are very light (approximately 1,550g) and the added width helps to keep the tyre stable at lower tyre pressures, offering better traction and cornering control.
4. The alloy Renthal Fatbar features a 38mm rise; that's the highest option offered by the brand. He uses the same bars on his downhill bike and Troy feels the taller stance affords better control when cornering. Obviously it's not as good for climbing but you don't race uphill in enduro!



ABOVE: Specialized offers the Enduro in both 29-inch and 27.5 wheel size options. Troy is running the 27.5/650B version; at 171cm he's not exactly the tallest and the smaller wheels match with his Demo DH bike. While it's loaded with high-end gear, there's nothing on it that you can't buy and it weighed in at 13kg.





# Cockpit Setup

Tossing bucket loads of cash at the latest gear is pointless if your bike doesn't fit. Here's a rundown on the key points that you need to consider.



The 'heel method' is a simplistic way of gauging saddle height but it does offer a reasonable starting point.

**R**iders come in all different shapes and sizes, and just like clothing, your bike needs to be the right size for you. Bike manufacturers offer anything from two up to six different frame sizes to accommodate our varying physiques, but that's only the start; from there you need to fine-tune things so you can feel at one with your two-wheeled friend.

The three points of contact between you and the bike – namely your hands, feet and butt – need to be optimised. As you can't stretch your limbs or change the shape of your pelvis, we're going to give you some simple tips for making your bike fit you, rather than the other way around.

This is intended as a general guide for most mountain bikers and it should get your bike setup somewhere in the ballpark. If you have specific body anomalies, such as one leg shorter than the other, or if you're an XC racer looking to extract maximum efficiency, you may well benefit from a professional bike fit.

## SIT DOWN

Let's get the saddle sorted first; its height, angle, and fore-aft position all need to be adjusted. The seat angle is generally easiest; with the bike on flat ground, the best starting point is to have the top of your saddle horizontal.

If you do a lot of climbing and very little seated descending you might want to drop the nose a few degrees. Conversely, if you mostly (or only) ride steep downhills, you can try lifting the nose 10 or 15-degrees.

These adjustments will place the saddle closer to horizontal when you're most likely to put your butt on it, but be very cautious about going too far from your starting point. Wild seat angles usually end up causing damage to delicate parts of your body. In particular, trail

riders should generally avoid nose-up saddle positions, which tend to put pressure on the nerves and blood vessels in your perineum and can lead to loss of blood flow and numbness (or intense pain) in your nether regions—definitely not cool.

With long-travel trail bikes, you may also need account for your suspension setup. Perhaps you run 30% sag on the rear but the fork sits at just 15% when seated. In this instance, angling the nose down will result in a level saddle when you're actually on the bike and pedalling. With many modern trail bikes running dropper posts, the saddle position becomes irrelevant when descending as it'll be right out of the way.

While on the topic of saddles, bear in mind that everyone has a slightly different shaped pelvis. Depending on your specific proportions a particular width or shape of saddle will suit you best. There are quite a lot of good saddle fitting systems on the market now, and many bike stores have demo saddles that you can try out before you fork out any coin for a perch that may or may not work for you.

## RIDE HEIGHT

Let's look at saddle height next. The optimum height for efficient seated pedalling is when your legs extend to about 85-90% at the bottom of your pedal stroke. If the saddle is lower than this, your quads and hip flexors will get unnecessarily brutalised. Going too high can lead to knee problems (due to repeated hyperextension) or lower back problems (caused by the pelvis needing to rock side-to-side as you pedal).

For an easy to obtain starting point, make the saddle high enough so that your heel just rests on the pedal when your knee is reaching full extension. Now when you place the arch or ball of the foot on the pedal, the extra functional length should provide just about the right amount of bend at the knee.

You may need to tweak things up or down 5-10mm once you're





LEFT: A forward saddle position will assist when climbing but don't take it too far. Drop a line down from the front of your knee and the plumb bob should fall behind the ball of your foot.

BELOW: Mark a line on the sole of your shoe that corresponds with the ball of your foot. The cleat should sit 10-20mm behind that point.



out riding, but you'll be pretty close to the mark. The idea is for the hips to stay level and the knees just slightly bent whilst pedalling. For those who have different sets of shoes or pedals, remember that you may well need to make adjustments due to differing sole or pedal thickness.

Of course we need to bear in mind that the concept of a 'perfect position' is a shaky thing; perfect for what? The ideal height for efficient pedalling may leave you lacking confidence in technical singletrack or on steep descents. Most cross-country or marathon racers learn to work around this handicap on the trickier bits of trail, and some of them do this extremely well; just watch the likes of Nino Schurter, Marco Fontana or Dan McConnell bombing the descents at full tilt! The rest of us mightn't cope so well and could consider dropping the saddle 5-8mm below the optimum for singletrack-heavy riding. Of course if you've got a dropper post you can have your optimum pedalling height and lower it as required.

## BACK-TO-FRONT

The fore-aft saddle adjustment is a little trickier. Generally speaking, you want the saddle as far forward as possible without letting your kneecap move in front of the ball of your foot whilst pedalling; the knee joint becomes much less stable and prone to injury once taken past this point. So why not just slam the saddle all the way back? To do so would result in very little weight on the front tyre, making your bike wander like a dog in a pet food store whenever the trail turns uphill.

Here's something to consider; over the last few years MTB seat tube angles have been getting progressively steeper which moves the saddle further forward from the outset, potentially putting the knee into the danger zone. Fortunately, and apparently without any direct correlation, many shoe manufacturers have been experimenting with longer and more rearward cleat slots, which will serendipitously help keep your knees behind the ball of your foot when pedalling. Combine a steep seat angle

with some older clipless shoes and you mightn't be able to get an effective pedalling position. Swapping shoes or fitting a rearward offset seatpost will generally right the situation but it's something to be aware of. Obviously this is a non-issue for flat pedal users, but seat adjustment does intertwine with pedal adjustment for clipless pedal converts.

## FOOT DOWN

So we've just touched on cleat position for clipless pedal users, and the thinking is changing somewhat in this area. Longstanding theory suggests that you should position each cleat directly under the ball of your foot. Newer theories suggest that, in most cases, you're better off placing the cleat in a more rearward location. As a guide, try running the cleat approximately 10mm behind the ball of your foot on a size 40 shoe and half a millimetre further back for each shoe size above this. In triathlon and road time trial circles, some riders have had success placing the cleat under the arch of the foot—a position

that many flat pedal riders naturally migrate to.

A more rearward cleat position offers a number of advantages. It allows you to run the saddle further forward for better weight distribution between the wheels and also places less load on the relatively small calf muscles; if you don't understand why, try standing on a step with your heels just hanging over the edge, then keep sliding your feet back until just the balls of your feet are on the step—now you get it!

Cleat angle is also important, especially for those with sensitive knees. As a general rule, you'll want your toes turned slightly out when you're clipped in; this position mirrors the natural alignment of the hips, knees and ankles and helps to keep the load through your knees relatively symmetrical. A good starting point is to stand comfortably with your feet hip width apart, then look down at the angle of your feet; now try to duplicate this position with your feet clipped into the pedals.

The angle of your feet may differ from left to right, so don't be afraid to set your



## Saddle height – another option

While the heal-on-pedal method outlined within the main article is by far the simplest, you'll find a number of other techniques that are a little more elaborate. Most of these methods are calculated using your inseam length.

Take your shoes off and stand with your back to a wall whilst on a hard surface. Place a hardcover book between your legs and pull it firmly up against your sit bones. Mark this height against the wall and measure from the ground up to get your inseam measurement.

Now multiply your inseam length by 0.883 (the 'Lemond method') and you'll get a saddle height measurement from the centre of the bottom bracket to the top-centre part of the saddle.

An alternate method takes your inseam and multiplies it by 1.09 to produce a saddle height that's measured from the centre of the pedal spindle at the lowest point.

Roadies have argued for years over which of the many theories are best. We're not going down that path and if you're really concerned, go book a session with a professional bike fitting service.

To begin with, any of these techniques should get you reasonably close to the mark for efficient pedalling and you can fine tune from there to suit your trails and personal needs.

pedals up this way too. Ideally your knees should be moving up and down, but not side-to-side as you pedal.

Of course this is all largely unnecessary if you ride flat pedals; your feet will naturally move to their most comfortable angle, you'll automatically place the pedal axle somewhere behind the ball or towards the arch of your foot, and because your foot placement is more dynamic you're far less likely to run into issues caused by repetitive movement with the feet and knees locked into a sub-optimal alignment.

### HOLD ON

The connection between your hands and the handlebar is arguably the most difficult to get right; not only do you have to steer the bike left and right, you also need to be able to push forward or pull back to weight or unweight the front tyre, plus shift gears, brake and operate lockout levers or a dropper seatpost.

There's obviously lots of things your hands need to do when you're riding, but there's one very important thing they shouldn't be doing, and that's supporting the weight of your upper body—your hands aren't for leaning on!

In an ideal scenario your hands will 'hover' on the grips, which allows you to easily push or pull on the bar as the trail dictates without requiring dramatic shifts in body position. If your focus is on climbing you'll want to bias your weight slightly forward, and if it's descending that floats your boat you'll want to get your weight slightly back, but for most of us the neutral hand position is just about spot on.

With that in mind, here's some basic principles that you need to remember in order to get your handlebar position right. A longer or lower stem will shift your body weight

forward—this will be pretty obvious to most. What you mightn't realise is that a wider handlebar will have the same effect. Here's another one; a longer stem or wider bar will slow your steering response, and vice versa. Got it? Right, now here's where it gets tricky...

There isn't a 'perfect' setup for everyone; body proportions, riding style and trail character will all play into how and where you set up your handlebar, so you need to be prepared to experiment a little in order to get the best setup for you. You might like wide bars but ride where the trails are really tight and twisty, making an 800mm bar more hassle than it's worth. Perhaps you want to stretch your cockpit out with a longer stem, but because you ride a lot of fast rough downhills it makes your bike feel twitchy and prone

us. While you're at it, select the shortest stem you can fit without feeling cramped on the climbs (40-80mm), and then adjust the stem height to get your weight distribution right; neither leaning heavily on your hands nor pulling back on them.

Although there is some concession to shoulder width, handlebar length for mountain biking is about handling more than ergonomics. A wider bar will give you more leverage to steer your bike and hold a line in rough terrain. Whilst it will also pull your weight slightly forward and slow the steering a little, these effects will be offset by the shorter stem, which sets your weight slightly further back and speeds up the steering. The net result is better leverage and control with minimal change to your weight distribution. If you're

coming from an old school setup, the wide bar/short stem combo will take some getting used to. Once you're accustomed to it, you'll feel much more comfortable and in control.

Whilst on

the topic of short handlebar stems it's worth mentioning something about cockpit lengths. Along with the trend towards steeper seat tube angles, modern trail bikes have been getting longer. Wheelbases have grown but more importantly they often feature a longer 'reach'.

The reach is taken from a point directly above the bottom bracket and measured horizontally to the centre of the head tube. This dimension directly affects how roomy the bike feels when you're standing on the pedals. If your bike has a relatively long reach, you'll be able to run a short stem without feeling cramped. Bikes with a shorter reach may require a longer stem to obtain enough cockpit room whilst standing. Don't be surprised if that stubby new school stem leaves you feeling too cramped

**"OF COURSE WE NEED TO BEAR IN MIND THAT THE CONCEPT OF A 'PERFECT POSITION' IS A SHAKY THING; PERFECT FOR WHAT? THE IDEAL HEIGHT FOR EFFICIENT PEDALLING MAY LEAVE YOU LACKING CONFIDENCE..."**

to tossing you over the bars.

With the number of variables involved, you'll be much better off changing one thing at a time. If you put on a wider handlebar, a shorter stem and remove two headset spacers all at the same time, your bike will feel very different but you won't really know what effect each of those changes had. Session the same bit of trail to feel the effects of each change, be systematic and you'll wind up at your best setup sooner than if you just try to wing it.

With all that said, here's a good starting point; get the widest bar you can comfortably ride on your trails without constantly smashing your knuckles. Generally this is between 690-720mm for women or smaller riders and 710-780mm for the rest of



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# Cockpit Setup

when mounted to an old school MTB. By all means go as short as you can with a wider bar, but be realistic and don't take it too far if your bike lacks reach.

## RAISING THE BAR

If there's one bike setup anomaly that I see most often, it's riders on modern 29ers with their stem flipped and slammed to get the absolute lowest handlebar position. In some cases this is a holdover from years past when the big wheelers had head tubes as long as their 26-inch cousins. With the taller axle height and longer fork, it was often necessary to flip and slam the stem to get any weight onto the front wheel.

With modern head tubes often being 30-40mm shorter than their predecessors, these drastic measures are no longer required, yet the mentality has hung around. Unless you're short and riding a long travel 29er, or an XC racer whose sole

focus is on smashing out KOMs on every climb, don't be afraid to raise the bar, so to speak.

## RETAIN CONTROL

The last thing to sort out is the position of your brakes, shifters and remotes; the one guiding principle is that they should be easy to operate with minimal movement of your hands.

Brake levers should be angled downward at about 45-degrees so that your wrist stays straight when you grab a fingerful of anchor. The lever should pull in close enough to the bar to comfortably rest in the hook of your finger without quite pulling all the way to the grip under heavy braking. Finally, your index finger should nestle into the hook at the end of the lever for maximum mechanical advantage—shift the whole lever inboard if you find your finger reaching for the middle of the lever blade. Modern disc brakes are good enough



Angle the controls down so that your wrist remains straight when you reach out for the brake lever.

that one finger should be all you need—this leaves your remaining fingers able to hold a relaxed grip on the handlebar.

As for the gear shifters, they should be angled down like your brakes or even more so. You want them close enough to easily reach without stretching your thumbs, but not so close that you bump them when you're bouncing down your favourite bit of trail. Most modern shifters have two different mounting positions, and sometimes you'll get a more ergonomic setup if you run your brakes inboard of the shifters—don't be afraid to experiment to see what works best for you.

At the end of the day, remember that getting the correct cockpit setup is about feeling comfortable and centred. Achieving this allows you to forget about the bike and simply focus on the trail in front of you. It's about making the bike fit you, and your riding style, not the other way around. Start with the tips we've outlined, have a bit of patience and be systematic; you'll be amazed at how much better you ride with a sorted cockpit setup. You might be out battling the terrain or your personal fitness, but you don't need to be doing battle with your bike as well! **MBA**

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# LED illumination



Like it or not winter is coming and a new set of high-powered LED lights may be just the ticket for hitting the trails after dark.

Article & photography by John Hardwick

These photos were taken using the same camera settings as the bike lights and should help to put everything into context. First up we have a \$20 Dolphin torch—yes, that's the dim one! The main photo is some halogen car headlights on high beam; that's two 130-watt H4 globes with aftermarket IPF reflectors and upgraded wiring looms. Now check out the tiny bike lights to see how they compare...

Model	Price	LEDs	Claimed Output (Lumens)	Optional Flashing Mode	Battery Size in mm & Weight	Light Unit Weight	Total System Weight	Charge Time	Hi-Beam Burntime	Longest Burntime	Mounting Types
Gloworm X1	\$249	1xCree XM-L U3	950	Yes	78x45x31 135g	58g	214g	4 hrs	2:05	48 hrs	Helmet or Bars
Xeccon 2200	\$249	1xCree XML	2,200	Yes	86x65x65 275g	133g	463g	5.5 hrs	2:00	7.5 hrs	Helmet or Bars
Lupine Neo	\$295	1xCree XM-L2	700	No	93x59x42 130g	48g	187g	1.75 hrs	2:10	50 hrs	Helmet or Bars
Lezyne Mega Drive	\$299	3xLED	1,400	Yes	125x74x50 269g	269g	321g	5-10 hrs	1:10	5 hrs	Handlebar Only
BBB Scope 1300	\$359	2xXM-L T6	1,300	No	100x55x32 197g	110g	330g	2.5 hrs	1:40	9.7 hrs	Helmet or Bars
Cygolite TridenX 1300	\$439	3xCree XM-L	1,300	Yes	79x45x45 250g	135g	412g	8 hrs	3:17	32 hrs	Helmet or Bars
Serfas TSL-2500	\$439	4xCree LED	2,500	No	103x56x56 377g	190g	651g	4 hrs	2:00	7.5 hrs	Helmet or Bars
Ay Up MTB Kit	\$440	4xLED	1,400	Yes	77x51x25 127g	66g	425g	4 hrs	2:30 Plus	8 hrs	Helmet and Bars
Exposure Six Pack	\$540	6xLED	3,200	Yes	125x72 371g	371g	397g	13 hrs	2:00	36 hrs	Handlebar Only
Light & Motion Seca 2000	\$649	6xCree LED	2,000	Yes	96x60 194g	126g	345g	2.5 hrs	1:30	12 hrs	Helmet or Bars
Trail LED DS	\$699	5xCree XPL V6	3,000	Yes	72x60x45 286g	98g	415g	2 hrs	2:10	16 hrs	Helmet or Bars

**NOTE:** All of the trail photos were taken on the same night using a Canon 5D (16mm lens) with a 10-second exposure at F9 and an ISO of 400. Ten reflectors on the trail are spaced at 10-metre intervals so the furthest is 100 metres away from the light.



## GLOWORM X1 \$249

Bicycle Peddler (03) 9763 1007  
www.bicyclepeddler.com.au

Like the more expensive Gloworm models, the X1 features alloy construction, stainless steel hardware and comes with two extra lenses that allow you to tune the beam pattern. It's well finished for a \$249 light.

In this single LED format, the Gloworm is best suited to helmet mounting. The 58g light unit is



'barely there' and the bracket will fit directly to a GoPro helmet mount (there's a regular velcro strap mounting option too). You won't notice the tiny 135g battery in your pocket and the 214g combined weight makes all-in-one helmet mounting viable.

The only glitch when helmet mounted relates to

the tiny velcro mounted remote switch; it'd be easier to locate if the button was part of the main light unit. I wound up sticking the button directly to the light. When bike mounted, you may find the remote wire too short for handlebars wider than 660mm, so the button won't be near the grip anyway.

The light modes can be customised but make sure you're patient and have the manual handy, as the sequences of short clicks, double clicks and presses can become confusing. At least there's a simple 'return to default' option that'll set things right if you mess it up.

While the beam photo was taken with the stock lens (the narrowest option), I really liked the more diffused pattern offered by the wide beam option—it only takes a minute to swap them. At 950 lumens the X1 isn't super powerful but the beam quality is smooth with no rings or dark spots, and that goes a long way when you're dealing with twisty singletrack at night. It's a quality offering for the price-point.





## XECCON SPIKER 1207 PRO

**\$249**

Cassons (02) 8882 1900 | [www.xeccon.com](http://www.xeccon.com)

Xeccon offers a range of affordable lights and the Spiker 1207 is currently their top model. Using a pair of Cree LEDs it's said to produce 2,200 lumens—an impressive claim for the dollars.

The light is supplied with tool-free helmet and handlebar mounts. It straps to the bar with a simple but effective O-ring system. For helmet mounting, the same O-ring ties the light to an adaptor bracket, which in turn mounts to the helmet. This double-bracket setup makes the light sit a fair way above the helmet, making its 133g weight more noticeable.

The lithium-ion battery cells are wrapped in a rubber case, then strapped into a neoprene

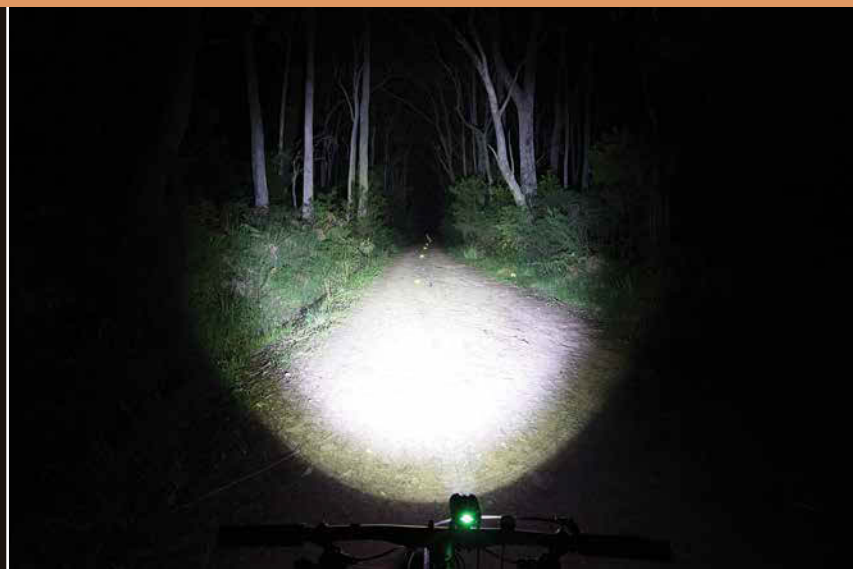
bag. A built-in neoprene strap is used for frame mounting; it worked but a non-stretch velcro strap held the battery more securely.

All of the functions are controlled via a wired remote switch. Again O-rings are used to hold the switch to the bar and the connecting wires are sufficiently long for wide MTB bars. The remote button is quite large and easy enough to locate if you choose to run it as a helmet light, however the 34cm long stretch of wire needs to be wrapped up out of the way to ensure you don't snag a low branch on the trail.

While this is pitched as a 2,200 lumen light, the actual light output appeared comparable to lights

that claim 1,200 or 1,300 lumens. Whatever the actual figure, power is still more than sufficient for off-road riding.

The beam pattern has a sharp and distinct cut-off around the periphery; within this circle there's plenty of light but it's blackness beyond. While the central beam covers a reasonable area, the distinct beam cut-off can be more straining on your eyes—especially when it's run as a handlebar light. For singletrack riding, the Spiker 1207 performs much better when helmet mounted. While it has some glitches, it's certainly one of the higher-powered options at this price.



## LUPINE NEO 2

**\$295**

Virtuascape | [www.virtuascape.com.au](http://www.virtuascape.com.au)

German brand Lupine are known for making some of the most powerful lights in the business. They are also known for being expensive, so what's the Lupine Neo doing at a sub-\$300 price point? Lupine designed the Neo first and foremost as a helmet light (although an optional alloy handlebar mount is also offered). The focus was on getting the size and weight down, and this in turn lowered the cost.

While it costs less than their other offerings, it's not a poor quality or dumbed down light. The light head is alloy and the tiny 130g battery is safely packaged in a hard case. There's a range of neat features like a flash sequence that tells you the

charge status whenever you plug the battery in. It's supplied with a clip-on light diffuser that's handy for camping and there's also a special low-powered red light that's designed to assist with map reading.

While these features add versatility, the key with the Neo is it's minimalist weight. The light head and helmet bracket is just 48g and the whole kit—battery and all—comes in at 187g. It's light enough to mount everything to your helmet and the overall low profile helps to make the weight even less noticeable.

There are no remote switches, just tidy wiring and an easy to locate rubber button on the light

head. The velcro mounts for both the light and battery are easy to use and secure. In stock form it offers three light levels (35/270/700 lumens) but you can also select from 10 other custom settings to suit a range of applications, both on the bike and off. While you'll need to refer to the manual when selecting custom modes, it's really quite easy to do.

Lupine offers a modest claimed light output of 700 lumens but this light seemed comparable to others that were in the 1,000 lumen range. It's not the broadest beam and it does cut off a little abruptly around the outside, but it's sufficiently wide for helmet-mounted use and makes very good use of the available lumens.





# Lights Feature



## LEZYNE MEGA DRIVE

**\$299**

Monza Imports (03) 8327 8080 | [www.lezyne.com](http://www.lezyne.com)

We've tested the Lezyne Mega Drive before and it's always struck us as a wolf in sheep's clothing. Despite the all-alloy body, it still looks a bit like a commuter light. Switch it on and it's a whole different story.

Previous versions of the Mega Drive had two LEDs and were impressively bright. The latest version runs three LEDs and the claimed output has gone from 1,200 lumens up to 1,400.

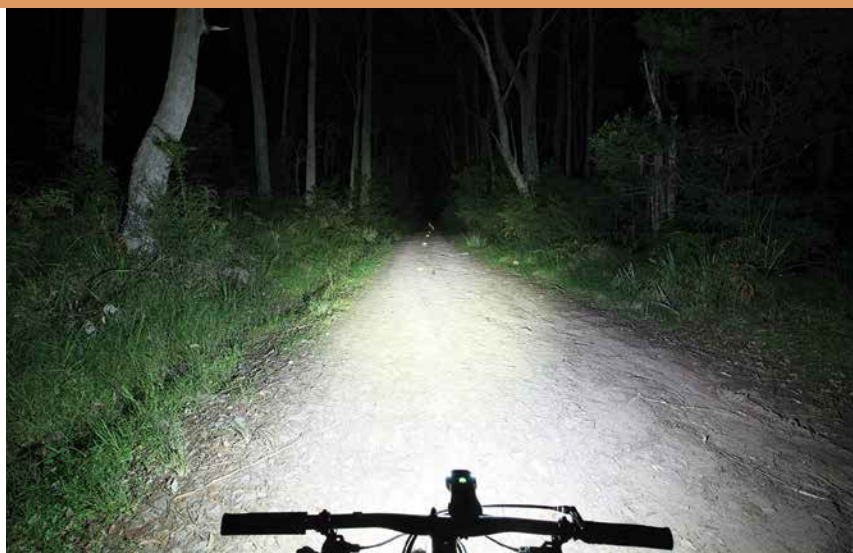
More lumens sounds great but the real improvement on the trail comes with the beam pattern on the updated light. It's now slightly smoother in its transition from the central hot-

spot to the outer edge of the beam. If anything it doesn't throw the light as far down the trail but there's clearly more spill around the edges. As a handlebar-only light, this is an important feature; narrow beams do a respectable job when helmet mounted but become annoying when fitted to the bars. The beam offered by the Mega Drive is nice and wide whilst still offering plenty of distance vision.

Lezyne says the light goes for 1:15 on high beam and we achieved 1:10 in our testing. The lower power settings allow you to stretch this out for a two hour ride but it's worth buying the 'Loaded Box' kit (as tested), as

it's supplied with an extra battery that you can swap out on the trail for longer rides. This upgraded kit also comes with an alloy handlebar bracket—a must if you want this 269g light to stay put on the handlebars on rougher trails.

The regular setup includes a couple of flashing modes within the beam sequence, which isn't ideal for off-road use. We preferred the 'overdrive' setting which gives you a simple two-mode operation; full power and 'economy' (5hrs at 300 lumens), although the lower beam is on the dim side for anything other than climbing.



## BBB SCOPE 1300

**\$359**

Bike Sportz 1800 808 181 | [www.bbbcycling.com](http://www.bbbcycling.com)

While the BBB lighting range is predominantly aimed at the commuters, the Scope 1300 is pitched directly at the MTB market. The kit comes with both handlebar and helmet mounts and they claim a 1,300 lumen output from the twin Cree XM-L LEDs.

Hard case construction protects the battery and it features a built in fuel gauge as well as a USB outlet that allows you to charge other devices; phones, GPS and whatnot. While the battery and light is reasonably compact, the 330g combined weight is a little too much to have the whole setup on your helmet—you'll need to stow

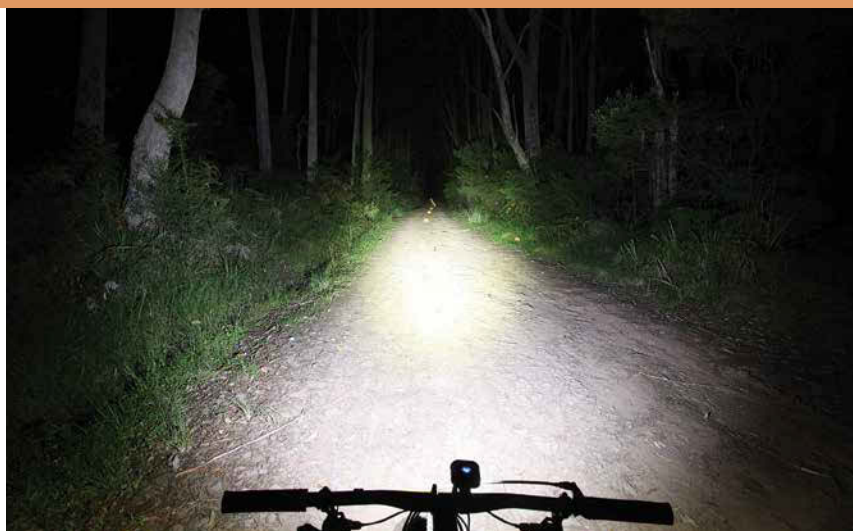
the battery in your pack or pocket.

Swapping from helmet to handlebar mounting is easy and the brackets click on and off with no tools required. The bar mount is meant to fit regular 31.8mm handlebars but it seemed slightly undersized; in some cases you may need to trim back or even remove the rubber shim that helps the bracket stay put on the bars.

At first I was suspicious that this would be a commuter light but that's definitely not the case. You won't find any annoying flashing modes within the beam sequence and the light output is surprisingly good for a 1,300 lumen light. There's

plenty of light at full power but you'll only get 1:40 out of it. With four modes in total, it's easy to extend the runtime. Both the 825 lumen and 550 lumen mid-settings are quite usable on the trail, so it's not hard to get a two to three hour ride in with the Scope.

It has a central hotspot that provides good distance vision for faster trails but it filters out around the sides rather than just stopping abruptly. Overall we'd suggest that the centrally weighted spot makes it better as a helmet mounted light but it was still quite workable as a bar mounted light.







## CYGOlite TRIDENX 1300

Bikecorp | [www.bicorp.com.au](http://www.bicorp.com.au)

**\$439**

Rated at 1,300 lumens, the TridenX is the second brightest offering from Cygolite. A split battery and light unit, it comes supplied with all the fittings required for both helmet or handlebar use.

With this model, Cygolite has updated their bar mount. It's now easier to use with a good sized thumbwheel and a rubber spacer that stays in place (unlike the previous design). While it's designed to fit handlebar diameters up to 31.6mm, we found the fit a bit on the tight side and only used one of the two rubber spacers provided.

The helmet fitting is simple but effective and easy to mount. It's designed to run in a relatively forward position on the helmet. This

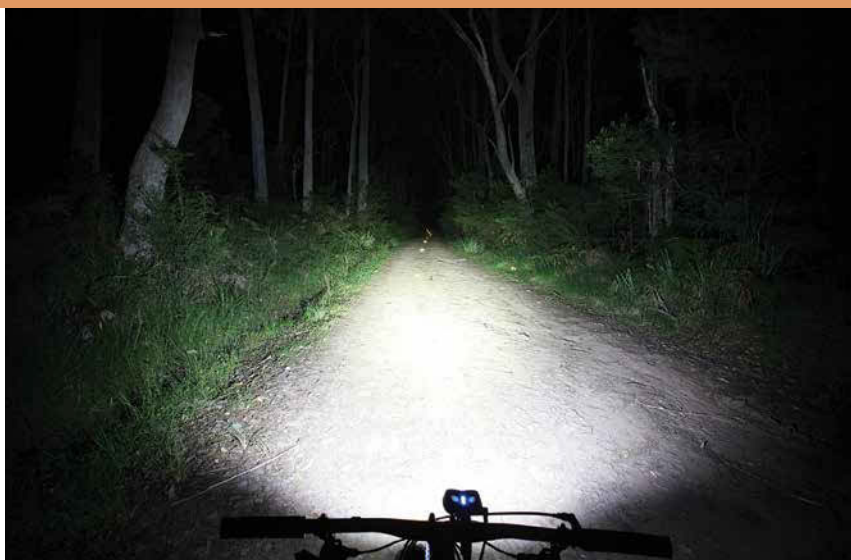
makes the 135g light/bracket weight more noticeable than if it was mounted closer to the middle of the helmet—it's not terrible but it's definitely more noticeable when you move your head around.

The hard case battery is secured by a wide velcro strap. It's a solid setup but make sure you apply the adhesive foam pad before mounting it—this eliminates rattles and protect your frame from scratching.

We had the larger 'Xtra' battery option which is meant run for 3:30 on full power. In our testing it fell short of this by 13 minutes. Still, over three hours is a pretty long night ride and the TridenX

will achieve this without using any of the power saving modes. If you do need a longer burntime, the TridenX has four modes that are accessed by the right-side button. The button on the left of the light head fine tunes the light level within each mode. There's a lot going on here but the two button design makes it relatively easy to navigate.

The TridenX produces a distinct beam cut-off around the sides but the spread is wide enough that you never get that tunnel vision effect on the trail. Within the main beam area, the light is relatively even and there's no distracting hotspot. While it's not the absolute brightest, the TridenX is a solid performer on the trail.



## SERFAS TSL-2500

Velo Vita (02) 9700 7977 | [www.velovita.net.au](http://www.velovita.net.au)

**\$439**

With four Cree LEDs and a claimed output of 2,500 lumens, the Serfas TSL-2500 is a pretty serious bit of kit for the \$439 asking price. It's a dedicated off-road light with no flashing modes and both helmet and bar mounting options.

With the helmet mount, the light head weighs 190g which is getting towards the upper end of what we'd be comfortable with. Bar mounting is solid, tool free and adaptable for a wide range of diameters—it'll even cope with the new 35mm handlebars.

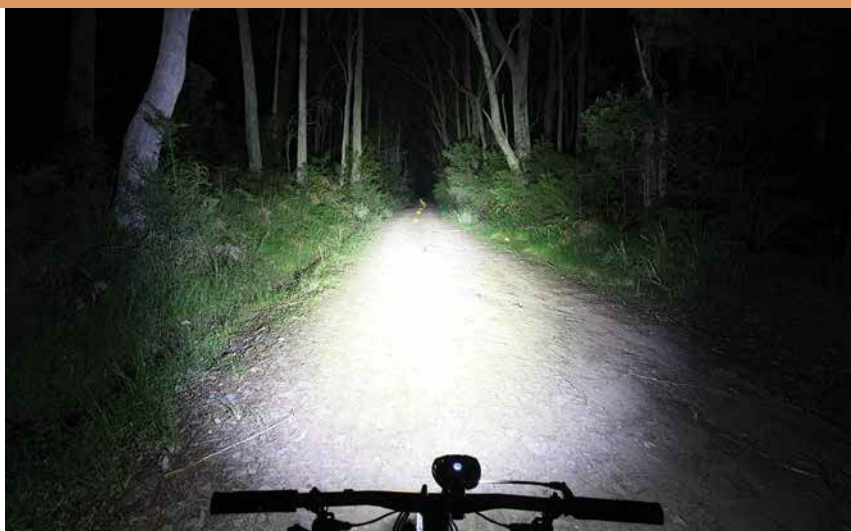
The battery is a chunky 425g brick but it's well designed with thick moulded in rubber

pads to protect your frame. You'll find a power indicator on the battery and the mode button on the light head doubles as fuel gauge too. The battery also has a USB outlet that allows you to charge other devices; phones, MP3 players and other devices.

A remote mode switch is also included but it's a plug-in style, so you can choose whether you want to use it or not. Remotes work for some people and bikes but not others, so the optional remote is a good idea. You may notice a chunky oversized connector on the lead that comes from the light head; this is for an

optional Serfas taillight but I can't see many mountain bikers employing this option.

So does the TSL-2500 stack up to their power output claims? It's definitely up at the brighter end of the lights that we've reviewed in this issue. Like a number of others, the beam has a distinct circular edge where the light simply stops, but this core of light is wide enough to perform well on the trail. With its weight and battery bulk, it's probably better suited to bike mounting. In this setting the beam is better suited to flat-out fire trail blasting. If sinuous riding is more your thing, go with the helmet mounted option.





# Lights Feature



## AY UP MTB KIT

**\$440**

Ay Up Lighting Systems 1300 405 092  
[www.ayup-lights.com](http://www.ayup-lights.com)

The last time we looked at Ay Ups, each light was rated at 400 lumens. Now this figure is up to 700 lumens (1,400 lumens in total). They may be brighter but the overall design remains virtually unchanged. You get two lights in the pack; one for your helmet and the other for your bars. Other lights may offer helmet or bar mounting options but Ay Up covers you for both in one fell swoop.

Mounting the Ay Ups is about as low-tech as it gets. The handlebar bracket is secured with cable ties while the helmet mount is fitted using adhesive velcro dots. Once the mounts are in place, the light components clip into place

without needing tools. However with the lights removed, you're left with brackets and velcro dots all over the place—maybe I'm too precious but this bugged me.

In function the Ay Ups couldn't be easier to use. Click the button to switch them on, click to scroll through three beam levels and hold the button down for two seconds to turn them off. If you want a flashing mode for daytime visibility, switch the light on with an extended press—that's as complicated as it gets. You also get a pair of red covers that turn your Ay Up into a super bright taillight.

In stock form the kit is supplied with one spot beam (typically for the helmet) and one mid-beam. Both beams are very centrally focused with dark rings around the outside. The bar and helmet light combo goes a long way in compensating for the patchy beam patterns, so in use the system performed better than the photo suggests. We also got to try their new wide beam option; it produces a much smoother and more consistent light. If you ride narrow or twisting trails, we'd recommend you order the wide beam for the bars combined with a mid-beam for your head.



## EXPOSURE SIX PACK MK 5

**\$540**

Bike Box (03) 9555 5800 | [www.bikebox.com.au](http://www.bikebox.com.au)



A couple of years ago, Exposure introduced the Reflex; a light with built-in accelerometers that sense whether you're climbing, descending or hitting bumps and adjust the light output accordingly. Now the same technology has been applied to the three top bar-mounted off-road lights within the Exposure range; the Toro, Maxx-D and Six Pack.

As with virtually every new light, the lumen outputs have gone up. The Six Pack that we tested has gone from 2,000 lumens up to a whopping 3,200 lumens! On the trail it's obviously a lot brighter and it'll still go for three hours or more in the default 'auto'

mode. Exposure has also worked on the beam patterns. Our Six Pack offered a wider, smoother beam that filters out smoothly at the sides (the older versions were a more spotty and centrally focused).

The new lights also feature a special touch screen display that lets you select from a range of custom modes, as well as providing an estimate on the remaining burntime. It worked well (even with full-fingered gloves) and was easy to use on the trail.

The auto light adjustment seems more sensitive to terrain changes and bumps than the original Reflex, and the variation from full power

to low beam is greater too. Sometimes this was beneficial and on occasion it was irritating; you could be climbing a smooth road and hit a single pothole, it then blasts out 3,200 lumens when it wasn't necessary. For the most part it performed well and it always bumped up the light output when you needed it. It's a great feature for racing when you really want to keep your hands on the bars. For general trail riding you can always flick to a manual override if you prefer.

Best of all this light is extremely convenient. The all-in-one design makes it quick and easy to mount. No need to fiddle with battery packs and wiring—just clip it on and hit the trails.





## LIGHT & MOTION SECA 2000

JetBlack Products (02) 4560 1200  
[www.jetblackproducts.com](http://www.jetblackproducts.com)

**\$649**

The latest version of the Light & Motion Seca now produces 2,000 lumens, an increase of around 20% over the previous version. The battery remains very compact on the 'Race' version that we reviewed, and it powers the light for 1:30 on high beam. Light & Motion also offers a larger 'Enduro' battery that extends the burntime to 2:30 on high.

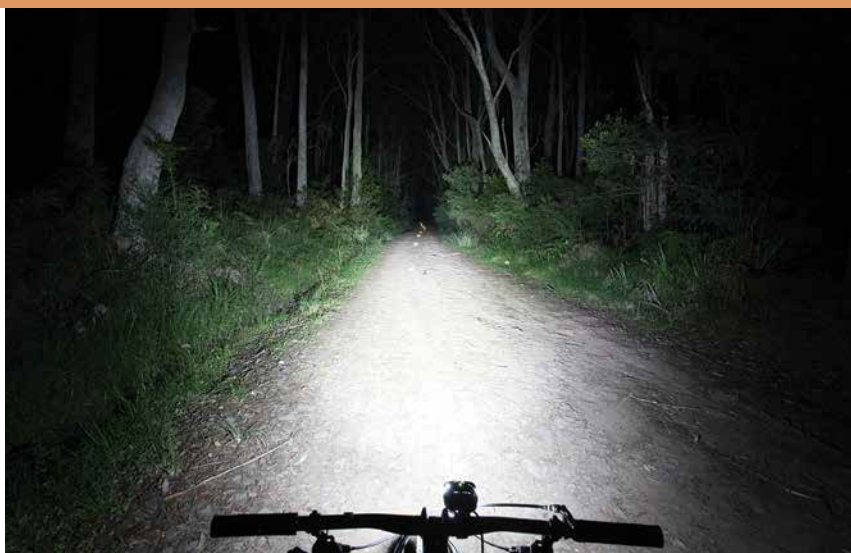
You can select from two operational modes. The regular setting gives you three constant beams and a flashing mode. You can't skip the flash mode, so if you're plodding along in low beam and suddenly plunge into a descent, you'll

need to do a quick double click to bypass the flashing before you get to high beam. Personally I preferred the two-beam 'Race' setting; switch the light on with a one second press rather than a quick click and you'll be in Race mode. While it keeps it simple and avoids unwanted flashing, it only provides a 1,600 lumen high beam. This ups the burn time to two hours and remains really bright. Low beam in race mode gives you 850 lumens and a four-hour burntime.

Fitting is easy and the rubber-strap bar mount is tool-free and works for all handlebar diameters. The helmet mount sits the unit

up fairly high, making the 126g weight more noticeable than it should be.

Where the Seca really wins is in its beam pattern. The tuned six LED cluster provides a beautifully smooth beam that sends plenty of light down the trail while still offering a wide flood of light immediately in front of you. It's one of the best beam patterns in the business and it uses the light in a very efficient and effective manner. As a result, this 2,000 lumen light punches well above its weight and shows that quality is more important than quantity when it comes to MTB lighting.



## TRAIL LED DS

Full Beam Australia | [www.fullbeam.com.au](http://www.fullbeam.com.au)

**\$699**

Trail LED is the brand behind the distinctive 'Halo' light; a 6,000 lumen monster with 10 LEDs that curves to fit right around the outside of your helmet. Producing a claimed 3,000 lumens, the DS is basically half a Halo. It's close to half the price too at \$699 versus \$1,379 for the Halo.

The alloy light body is machined in the US and the finish is first rate. Visually the battery pack is comparatively rudimentary; the cells are wrapped in a heavy duty rubber cover. While the battery isn't as well presented (or protected) as a hard case unit, the performance was impressive. It offers a 1:1 charge to burntime ratio; ride on high beam for two hours and it'll only take two

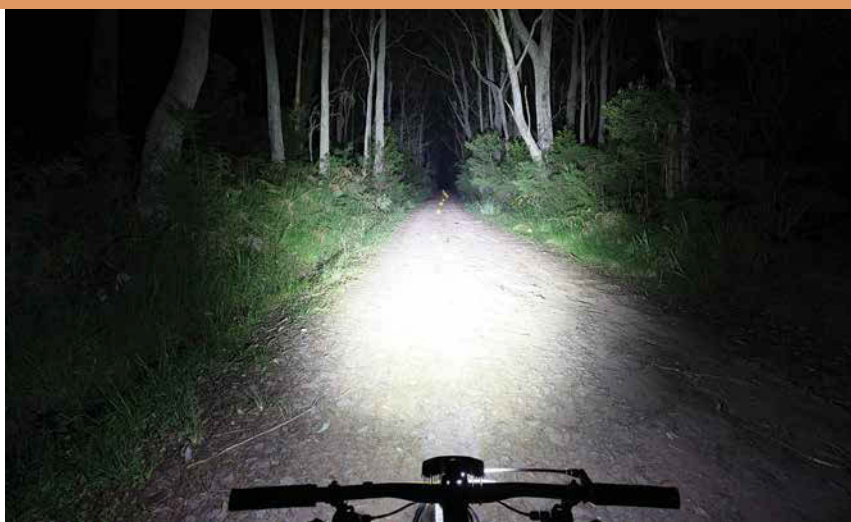
hours to recharge the battery—that's pretty rare for a 3,000 lumen light.

It's pretty clear that the DS has been designed first and foremost as a helmet light. The alloy body contours gently to match your helmet and it sits directly on the shell with a big O-ring to hold it in place. Mounting is a little fiddley the first time around; the light needs to line up with vents for the O-ring to slip through whilst simultaneously pointing the beam in the right direction.

The main benefit of this system is that it keeps the weight low and close to your head. At 98g the head unit is pretty light to begin with—especially for a 3,000 lumen light—but the perceived weight

on your helmet will have you thinking it weighs even less. There is a handlebar mount for the DS; a nylon sleeve that goes around your stem before you strap it down with two O-rings. We had limited success using it and it'll depend heavily on your handlebar and stem setup.

Power wise the DS won't disappoint—it was extremely bright. While a lot of light is punched through the central portion, it still spreads to the sides and the DS performed brilliantly as a helmet light. The emitters are also upgradable, so there's an element of future-proofing built in and Trail LED offers a lifetime warranty on the light head. **MBA**





GTs new Helion is pitched as an XC bike that provides a balance between fun and efficient pedalling, so is it an XC racer or an all-round trail bike?



## GT Helion Pro

**T**here was a time, not all that long ago, when bikes with short travel and small wheels dominated the cross-country race scene. They were swift and incredibly agile beasts, and when they weren't on the race track, many of them served double duty as fast trail bikes—especially in areas where the trails were

tight but not overly steep or technically demanding.

Then along came the 29er wheel with its superior rollover and momentum carrying abilities, and for a time it seemed that the nimble XC bike had gone the way of the dodo—the scalpel had been abandoned in favour of the broadsword. Still, somewhere in the back of our collective MTB psyche was a silent yearning for the return of the XC whippet. And now we're seeing a small but growing number of bikes that answer this call, and the GT

Helion is amongst them.

Everything expands with time it seems, so this modern XC bike now sports 110mm of travel at both ends and 27.5-inch wheels, but nevertheless the Helion harks back to the fast accelerating, short travel bikes of five or more years back. Available in three carbon and three aluminium models ranging from \$2,499 up to \$6,899, our Helion Pro test bike is the top spec of the aluminium bikes, and it retails for \$3,999. Cockpit and cranks are from Race Face,

Shimano XT provides the stop and go gear, the wheels are tubeless ready WTB i23 rims laced to SLX hubs, and Fox supplies the bouncy bits from its Factory CTD range. It's all very functional gear, and whilst not uber-light there's no need to upgrade any of it until it wears out.

All models will fit a water bottle within the front triangle, which is an absolute must for an XC bike. The subtly shaped tubes and compact rear triangle give the Helion a clean and purposeful stance, and it's certainly stiff enough to transfer power to the rear wheel or to track straight through the rocks. The amount of metal required for that stiffness no doubt contributes to the 3,100g





frame and shock weight, and total weight of 12.97kg without pedals. While it's too heavy to be truly competitive XC race bike, it is reasonable enough for a trail bike. Ditching the tubes from the Continental X-King tyres is the easiest way to lighten things up a bit, but it's still not going to blow away in a stiff breeze, or probably a cyclone for that matter.

### WHO THE HELION AM I?

In terms of spec, the Helion seems to be suffering from a slight personality crisis. The 740mm wide handlebar, thru-axles at both ends, and very low bottom bracket say trail bike, whilst the 80mm long stem, 69.5-degree head angle and remote lockout for both the fork and shock say XC bike. The X-King tyres probably have a foot in both camps, as does the top mounted chain guide and

42-tooth extender cog that is supplied with the bike. With the 42 cog fitted you get a really good 1X gear range but gear spacing and shift quality suffers a bit (as is generally the case with these adaptors).

Big 180mm brake rotors probably rate as overkill for the intended use and will quickly overwhelm the traction offered by the XC tyres—especially on the rear. Whether you're classing it as XC or trail, the lack of any dropper post routing is a serious omission; even some XC pros are running dropper posts on technical courses these days. Most of these things are easily addressed at a shop level for little or no expense; swapping out a few components would easily give the Helion a different character. For our steep and rough (and as it happened, damp) local terrain we swapped the stem for a 60mm unit, dropped the inner tubes and swapped to a more aggressive front tyre; there's certainly wiggle room either way depending on your preferences.

Regardless of which way you want to go, one thing that doesn't need changing is the AOS suspension. Released a few years back now on the Sensor and Force ranges, it's the latest iteration of the floating bottom bracket design used by GT and its sister brand Mongoose for over a decade. The Helion sees further refinement to the construction, with the front pivots all using expanding collet-type hardware instead of the pinch bolt arrangement on the other bikes in GT's range.

This system features a very high main pivot, which allows the rear wheel to move back and up following the path of least resistance over obstacles. At the same time, because the bottom bracket moves rearward slightly as the suspension compresses, there isn't the massive pedal kickback and suspension stiffening you'd normally associate with such



1. The 1X drivetrain and optional range expanding 42 cog shows that GT is thinking outside of the box with the spec on this bike.
2. The 740mm bars are a healthy width for trail riding—the Helion is more than a straight out XC whippet.
3. While it's tucked out of sight under the bottom bracket, all of the bends and turns do add friction to the rear derailleur cable.



a high main pivot point. Some riders may notice the bottom bracket movement for the first few minutes, but the sensation quickly vanishes and is replaced by wonderment at how a bike can feel so smooth over square impacts and yet still pedal almost like a hardtail.

And pedal it does; despite having access to the 'trail' and 'climb' modes on both suspension units at the press of your left thumb, after a bit of early experimentation we left the shock 'fully open' for the rest of the test period. If you spend a lot of time on gravel roads or trying to remove every millisecond from your lap times, you might find the more heavily damped suspensions modes of some value, but for everything else they're all but unnecessary. In wet conditions we noticed a bit of mud collecting on the shock shaft, so judicious cleaning will be required if your trails are often damp.

Not needing to use the suspension remote is a good thing, as with one lever operating two sets of cables, the thumb force required is considerable. Overall the cable routing is a bit of a debacle. Yes, it looks clean and neat from a distance, but the kinks and twists required to get cables from under the down tube to the shock and derailleur create a friction nightmare. Why GT didn't run the cables on the top of the down tube and thence along the top of the seat stays will remain, in my mind at least, one of the great mysteries of the modern world. With a small amount of fettling this could easily be done at home. And whilst I'm quibbling, the seat tube on our test bike had a burr or weld splatter inside which gouged at the seatpost every time the saddle height was adjusted. It was significant enough that we would have expected their QC to pick up on it but it's still likely to be a one-off oversight. In any case

it was easy enough the fix with some abrasive paper.

## HELION ON WHEELS

As you'd expect with any good cross-country bike, the Helion makes you want to get out of the saddle and hammer the pedals way more often than is needed. Maybe it's because staying seated isn't armchair plush, or maybe it's because your efforts net a more tangible reward. Whatever the case, the Helion makes you want to ride fast and there's a direct connection between stomping the pedals and surging forward. It doesn't feel armchair plush, but rather it's sports car stiff; it sucks up the smaller bumps relatively easily, and whilst bigger impacts are transferred to the rider, it's more a case of feeling exactly what's happening under your tyres rather than having your fillings shaken loose.

The second thing I noticed about the Helion was how much you ride it from the front of the bike, rather than the centre or rear. In this sense it feels almost like an XC hardtail; you spin the cranks and point the front end where you want it to go, driving through the front suspension and just letting the rear wheel follow along however it chooses. That's not to say that it can't hold a straight

**"THE REAR SUSPENSION DEALS WITH SQUARE IMPACTS PARTICULARLY WELL; STEPPED AND CHOPPY CLIMBS BECOME A CHALLENGE TO BE SOUGHT OUT RATHER THAN AVOIDED."**

line or that the back end isn't relatively supple, because it can, and it is. When required, you can hang back and over the rear wheel to negotiate more treacherous terrain, and the AOS suspension has a strongly progressive end stroke that

makes it feel like you've got more travel on tap than the 110mm on the spec sheet.

As mentioned previously, the rear suspension deals with square impacts particularly well; stepped and choppy climbs become a challenge to be sought out rather than avoided.

If you can keep the pedals spinning and the rear tyre weighted it'll climb almost anything, and there's very little kickback through the pedals to disrupt your rhythm. The 438mm chainstays also strike a good balance between combating that feeling of 'looping out' on steep climbs, without cornering like a barge on tight switchbacks. The caveat here is the low bottom bracket; it's a belly-scraping 325mm without sag, so timing your pedal strokes through obstacles becomes vitally important.

The flipside of the poor pedal clearance is exceptional stability through high-speed turns—the Helion helps you

to carve corners like a pro.

Numerous times it had me pushing hard enough to reveal flex in the wheels, and the tyres were squirming sideways on the rims when running 25psi in them. The Helion's enthusiasm for gravity-induced speed also got me into trouble on more than one occasion. It'll lull you into a false sense of security on moderate descents, then if you're unwary, the steep head angle will slap you around when you hit step-downs or rock gardens.

All of these riding traits again highlight the 'jack of all trades, master of none' character of the Helion. That's not to say I haven't enjoyed riding it; on the contrary, after getting into the XC character after the first few rides, I thoroughly enjoyed razzing it through twisty trails and covering distances at a speedy clip, well speedy for me in any case! If I lived and rode somewhere with fewer pedal obstacles and less steepness (Canberra or Forrest for example), I think it'd be a great do-it-all bike. In



4



5





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4. A narrow wide chainring combines with a top mounted e.Thirteen guide to ensure that you won't be losing the chain in a hurry.
5. A single lever controls the damping at both ends of the bike simultaneously. We felt that the Helion pedalled really well without needing a lockout, so the remote proved somewhat superfluous.

6. The alloy guides under the down tube are very neat and do a good job at prevent cable rub and rattles.
7. The AOS suspension provides a relatively rearward axle path that makes the most of the available travel—in many situations it feels like more than 110mm of squish.
8. There's tons of clearance within the swing arm should you wish to fit some wider rubber.



7



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these situations the low bottom bracket and steep head angle would be a huge asset, rather than a sometimes liability.

But I think it could be even more versatile with a few minor and inexpensive tweaks, so here's my two-cents worth. Remove the largely unrequired suspension remote, put on a 50 or 60mm stem and get the fork adjusted to provide 120mm of travel. The stock fork is basically a Float 120 that's had the travel restricted. Bumping it back up by 10mm end is unlikely to have any affect on a frame that's as robust and overbuilt as the Helion. For the final piece of the puzzle, and if you like fast corners and descents, add a dropper post with a few zip ties to secure the remote cable.

You'd retain the snappy acceleration and connected trail feel of the rear suspension, add a few well needed millimetres of pedal clearance and lose around half a degree off the head angle. The resulting 'Helion+' will

give up next to nothing in smooth ground speed, will still have sharp handling, but be more stable on rough descents and slightly less prone to pedal strikes on rough climbs.

Of course you could more clearly define its XC nature with a few subtle tweaks (such as swapping out the big brake rotors for lighter 160mm units) but at the end of the day the Helion Pro's frame will always be on the weighty side for competitive XC capers. It's right on the money for sport level XC racing, but if you're racing sport category you're doing it for fun, and I'll stick my neck out and say the previously mentioned setup will be more fun to ride anywhere, anytime.

As it stands, GT's new Helion Pro, whilst not truly an XC race bike, offers riders the chance to rediscover the fun of a fast and nimble trail bike. Think of it as a Golf GTI rather than a Mercedes F1. It's got great suspension and quality components, and with a few tweaks it could easily be the only XC/trail bike you need. **MBA**

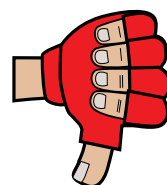
## Specifications

Frame	6061-T6 Hydroformed Alloy
Shock	Fox Float CTD Remote 110mm Travel
Fork	Fox Float Fit CTD Remote 110mm Travel
Headset	Orbit Tapered
Handlebars	Race Face Ride Low Rise 740mm
Stem	Race Face Ride 80mm
Shifter	Shimano XT
Front Derailleur	e.Thirteen XCX+ Guide
Rear Derailleur	Shimano XT Shadow Plus
Cassette	XT 11/36 (plus optional e.Thirteen 42T cog)
Chain	KMC X10
Cranks	Race Face Evolve w/32T Narrow Wide
Bottom Bracket	Race Face
Pedals	N/A
Brakes	Shimano XT
Rims	WTB STi23 Tubeless
Hubs	All Terra Alloy Centre Lock
Spokes	DT Competition
Tyres	Continental X-King 2.2
Saddle	Fizik Tundra 2
Seatpost	Easton EA70
Weight	12.97kg without pedals (Large frame 3,100g)
Available Sizes	S, M, L (tested) & XL
Price	\$3,999
Distributor	Monza Imports <a href="http://www.gt bicycles.com">www.gt bicycles.com</a>



### THUMBS UP

- Great pedalling and responsive
- Effective suspension
- Stiff and robust



### THUMBS DOWN

- Weighty frame
- No remote dropper routing
- Spaghetti nightmare cabling



Made for riders who like to get rough and rowdy, the G-150 is one of the newest offerings from UK brand Whyte Bikes.



## Whyte G-150 Works

**R**egular readers will probably be aware that whilst I have an overarching dislike of white bikes, I'm generally a fan of Whyte bikes. The UK company was a relatively early proponent of the now ubiquitous long, low and raked-out front end geometry combined with short chainstays. The latest addition to their

relatively compact range is the G-150, with (you guessed it) 150mm of travel at both ends.

This model is built as an all-out gravity enduro monster truck; indeed Whyte's factory rider Martyn Brookes piloted one to 3rd place at the French Megavalanche event in 2014. It comes in just three sizes (small, medium and large) and there are only two spec levels available; the G-150S for \$5,299 and the G-150 Works tested here for \$7,599.

Eschewing the black plastic of most high-end bikes, both

models use a custom designed and drawn 6061 aluminium frame. With the RockShox Monarch Plus Debonair shock fitted, our medium frame tipped the scales at 3,680g. That's pretty hefty, so the overall weight of 13.2kg without pedals is quite impressive.

The healthy package weight comes thanks to the premium level parts that feature throughout. It starts with a full SRAM X01 drivetrain and the new Guide RSC brakes; both great performers that also keep the weight down. You'll

also find a light but strong 35mm Easton Haven Carbon bar and stem combo.

It needs to be said that the G-150 is not a cheap bike by any stretch; a similar spec'd aluminium bike from one of the larger mainstream brands would probably save you between \$1,000 and \$2,000. Small, boutique brands like Whyte will always be at a price disadvantage compared to those who make bikes by the thousands, or even tens of thousands. Their value is in their uniqueness, and





often in the little details that show a real passion for making each bike the best it can possibly be.

Whilst the frame material itself may seem a bit ordinary, there are a whole host of design features which clearly demonstrate that Whyte have really sweated the details on the G-150. First up is a set of crud-catcher bosses under the downtube, which anyone who regularly rides in muddy conditions will greatly appreciate (Whyte are from the UK after all). The cable routing is mostly internal for a tidy finish but most importantly it's well executed. They use a full length outer housing (another mud-proof feature) with rubber grommets where it enters the frame. These grommets serve the dual task of securing the cables and keeping muck out—they haven't budged a millimetre in the time we've had the bike,

which is more than we can say for many other attempts at internal cable routing.

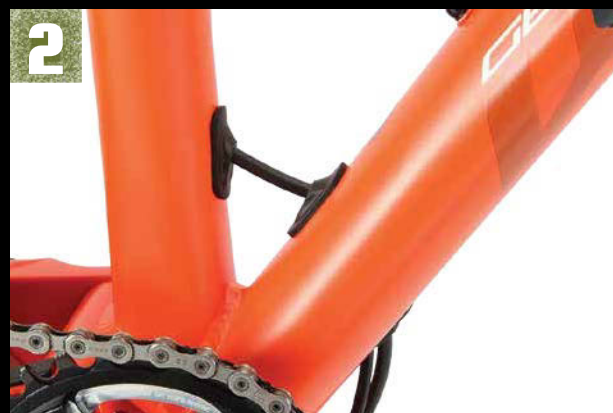
Also keeping the frame's innards clean is the slot-free internal seatpost clamp, complete with a rubber boot to stop your dropper post from seizing into the frame (when was the last time you moved your dropper post?). Whilst on the RockShox Reverb post, Whyte is one of the few companies that puts the remote where I think it belongs; under the bar on the left side. A small water bottle will fit inside the front triangle and the inclusion of ISCG tabs mean you can run a chainguide if you wish.

Mechanics around the world will rejoice the easy-to-service threaded bottom bracket, as well as trunion nuts in the rear brake mount—these make repairs easy if someone gets overenthusiastic with the allen key. Whyte also offers a lifetime replacement warranty on all of the suspension pivot bearings. Speaking of the finish, whilst the safety-orange colour scheme is certainly bright, the matte paint looks a lot classier and has held up better than the gloss used on many bikes these days.

One thing conspicuous by its absence is a front derailleur; the G-150 has no provision for front shifting and there's no way to bodge one up either. Freeing up the real estate traditionally reserved for a front mech has allowed Whyte to shorten the chainstays to just 425mm. You'll also notice that both chainstays are completely straight—the driveside stay doesn't drop down in an arc like most. This Symmetrical Chain Stay (SCS) design aims to make the back end stiffer for its weight; expect to see more of this idea as riders continue to embrace 1X drivetrains.

The Quad-Link Four suspension, which is Whyte's take on the Horst Link, drives the shock via a short yoke that wraps around the seat tube. The idea of using a shock yoke to get around that pesky seat tube isn't new, but instead of using a

1. A yoke arrangement skirts around the seat tube. Unlike most similar designs, this one fits to a regular shock eye.
2. The dropper post hose emerges briefly from the frame at the bottom of the down tube. This avoids the potentially awkward job of routing through the bottom bracket shell.
3. All the cable entry ports have rubber grommets to keep the muck out. These also hold the cables taut and prevent rattles.
4. Right where it should be; 10 out of 10 for placing the Reverb dropper remote lever under the bars on the left hand side!





# Ridden & rated



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5. While the SRAM Roam wheels aren't as wide as some, they proved to be solid and worked well with the Maxxis tyres.
6. With its new Debonair air can assembly, the Monarch Plus shock was an absolute joy on the trail.
7. SRAM seems to be on a winner with their new Guide brakes.
8. Super tidy and mud-proof; Whyte definitely do things their own way and it shows on the seatpost clamp.
9. The high quality finish was also apparent in the neat looking welds.

modified and proprietary shock shaft to fit the yoke, the G-150 uses a standard shock. The yoke bolts straight through the eye that would normally hold the DU bushing and so far this setup has been silent and hassle free.

## G WHIZZ

Silent is the key word; hitting the trails on the G-150 is like going into some sort of sensory anomaly where all you can hear is the squishing of suspension and the rip of tyres on dirt. If quiet bikes always feel fast, then the G-150 feels like you're flying—there's zero chain slap, no cable rattle and even the freehub is as silent as the grave.

The G-150's Quad Link Four suspension favours traction and suppleness over outright pedalling efficiency. It glues the tyres to the trail whilst simultaneously absorbing even

the smallest ripple or tiniest rock, which adds further to the magic carpet-like flying sensation. There's very little pedal feedback when cranking through or over obstacles, and like all good Horst Link bikes, the G-150's suspension manages to stay predictable and neutral under brakes, even in the rough.

Whether climbing or descending, the distinct linearity of the suspension is instantly noticeable. Combined with inherently low levels of anti-squat and 25-30% sag, I found the shock's open setting to allow a little too much rider-induced bob for sustained pedalling. Because of this I usually chose to run the middle compression setting on the Monarch Plus Debonair shock; this dramatically reduced unwanted movement without significantly muting the bump absorption. The added bonus

was better support when pumping the G-150 through compressions, hitting drops or ploughing through rock gardens.

Even in the middle setting I regularly slammed the travel indicator to the stops, but I not once felt a harsh sense of bottoming the suspension. Whyte's leverage ratio combines with the inherent spring curve of the air shock to produce one of the most consistently linear suspension setups that you're likely to come across.

With such supple and ground hugging suspension the G-150 will clamber its way up silly rough or steep climbs if you can keep your weight centred, although you can expect plenty of rock strikes. I measured the bottom bracket height at around 328mm (Whyte lists it as 343mm)—that's about as low as you can get in this travel

category. Whilst it adds bucket loads of slice and dice cornering stability, your crank ends will pay the price on technical climbs.

Heavier riders or those who ride hard might feel there's a slight lack of mid-stroke support and not enough ramp-up – something that should be resolved by an air can spacer or two – but for most the external compression adjustment on the shock will provide enough tinkering range to keep the G-150 moving when you want it and steady when you don't. And my-oh-my, the Monarch Plus shock with its new Debonair air can is a lovely creature! Unless you've been living under a rock for two years, you'll know that the RockShox Pike is rated by many as the best mid-travel fork on the market. Now this variant of the Monarch shock



is rapidly becoming the top contender for rear suspension as well.

Testing the G-150 was the first time I'd encountered the new SRAM Guide brakes; having experienced mixed reliability with previous SRAM models I felt somewhat ambivalent about their presence. I'll admit that I was wrong; the Guides have not only performed flawlessly and silently, but their modulation is absolutely brilliant. As a long-time fan of Shimano brakes, I have to say that these will sorely test my loyalties. The stubby new lever felt smoother than XTR and they offered better fine control at the edge of traction, without giving anything away to the competition in all-out power. Seems the brake battle is truly on!

Parts wise there was little to complain about on the fully SRAM'd out G-150; in addition to the excellent stoppers, the Reverb Stealth post with its 'correctly' mounted remote ran smoothly and reliably, and the X01 11-speed drivetrain didn't drop the chain or miss a beat, despite the lack of any chainguide. Given the low bottom bracket height and ensuing number of pedal strikes, perhaps spec'ing the aluminium version of the cranks would have been a wise choice, but the carbon certainly adds some bling value and sheds a little weight.

I will say that the 18-tooth freewheel ratchet that comes standard with the SRAM wheels is woefully slow to engage; why these wheels didn't run the 36-tooth option is a mystery as confounding as the Bermuda triangle. Whilst on the topic of the SRAM wheels, the set on our test bike, like the few other pairs we've encountered over the last year, have been utterly bombproof; it's just a shame that they're comparatively narrow (23mm internal). Most manufacturers have now

**"IT'S LIKE A SLALOM SKIER IN THE CORNERS AND A MOGUL SKIER IN THE ROUGH."**

realised that wider rims (25-35mm internal) allow the use of much lower tyre pressures without sacrificing stability or tyre security, and this leads to vastly improved traction in all situations. Fortunately, the super grippy, if a little slow, High Roller II tyres have a very square profile which works well on narrower rims. This wheel and tyre combination held air and performed admirably for the entire test.

### GEE UP

Bikes of this type get propelled into a variety of tasks; some will use them as an everyday, do everything trail bike where climbing ability is quite important. In other cases descending capability will be the overriding force and it may serve as a dedicated gravity enduro bike. One of the surprises with the G-150 is that Whyte, despite being early exponents of the slack head angle, have kept the front end at 66.5-degrees; that's relatively conservative for an enduro bike. It feels slacker than you might think – perhaps because the bottom bracket is so low and the back end so short – but given the pedalling related ground clearance issues, I think it'd be wise to set the Pike up with 160mm of travel. This simple and relatively low-cost modification would raise the bottom bracket by a few millimetres and drop half a degree off the head angle; the result being increased stability at speed and a bit of extra breathing space under the cranks. That said, it's a very well balanced and seriously fun bike. There's virtually

no learning curve and from the moment you swing a leg over the G-150 you feel comfortable and in control.

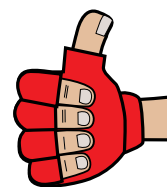
The frame and fork are stiff enough to go exactly where you put them, and those extra short chainstays make sliding the back end through turns or lofting the front wheel a breeze. It's like a slalom skier in the corners and a mogul skier in the rough; the supple suspension and planted feel will slingshot you out of corners and pump for speed over every bump in the trail. Instead of focusing on every little ripple and lump, you can get on with the bigger task of how to extract more speed from both the pedals and the terrain. The G-150 also hides its weight well; it's one of those bikes that handles and rides much lighter than the scales would have you believe. It'll probably suit a rider who's focused primarily on descending more than one

who places even emphasis on both the ups and the downs, but there's really nothing it can't do well save outright mile munching.

I'm going to be a bit sad when I have to say goodbye to the G-150. There's no shortage of great mountain bikes out there today and the Whyte is certainly one of them. Whether you're looking at the G-150 Works or lower spec'd S version, it's relatively expensive for an alloy dually and it'll be wasted on tamer trails, but it has a forgiving and engaging ride quality that's hard not to love. Whyte's attention to detail and design is both noteworthy and likely to contribute to greater longevity with less maintenance. It's an eye-catching and unique bike with the chops to back up its looks, and all things considered, the G-150 is simply more proof that I really like Whyte bikes; even if they're bright orange. **mba**

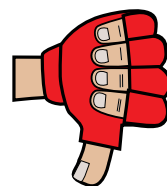
## Specifications

Frame	6061 T6 Alloy
Shock	RockShox Monarch Plus Debonair RC3, 150mm Travel
Fork	RockShox Pike RCT3 150mm travel
Headset	FSA Integrated
Handlebars	Easton Haven Carbon 35, 750mm
Stem	Easton Haven 35, 50mm
Shifter	SRAM X01
Front Derailleur	N/A
Rear Derailleur	SRAM X01
Cassette	SRAM X01, 10/42 11-speed
Chain	SRAM X01
Cranks	SRAM X01
Bottom Bracket	SRAM Threaded GXP
Pedals	N/A
Brakes	SRAM Guide RSC
Wheels	SRAM Rail
Tyres	Maxxis High Roller II TR 2.3
Saddle	Fizik Gobi
Seatpost	RockShox Reverb Stealth
Weight	13.2kg without pedals (medium frame 3,680g)
Available Sizes	S, M (tested) & L
Price	\$7,599
Distributor	Carbuta Pty Ltd 0439 902 770 www.whyte.bike/gb



### THUMBS UP

- Smooth yet lively ride with modern geometry
- Excellent attention to the detail
- Spec'd just how you'd want to ride it



### THUMBS DOWN

- Price
- Frame isn't the lightest
- Bottom bracket may be too low for some



# Giant Stance 2



**The Stance promises to deliver truly off-road-worthy dual suspension performance in a very affordable package.**

**W**hile it's always cool to check out high-end gear, there's a decent-sized chunk of the MTB population who can't justify a \$5-7,000 spend to score a new bike—especially if they are relatively new to the sport. As a result we always aim to include some more affordable test bikes, and they're typically alloy hardtails.

While it's not hard to find a sub-\$2,000 dually, they are

definitely at the lower end of the 'genuinely off-road-worthy' MTB market. Attempting to shoehorn in all of the suspension components whilst simultaneously keeping the price down is a real juggling act, and it often results in an end product that's heavily compromised. A hardtail however will be robust and light at the same price point, and it'll probably have more durable running gear too.

The Stance is Giant's latest entry-level dually and it's priced well enough to lure would-be hardtail buyers over to the land of squish. There's

currently only one version of the Stance offered in Australia and it sells for \$1,699. At this price it neatly bridges the gap between their Talon hardtails and the more performance oriented Anthem, Trance and XTC models.

Visually it closely echoes its longer travel big brother; the Trance. In fact the Stance looks a lot like the Trance Advanced 0—a bike that costs four times as much. Giant has certainly done well to retain the appearance of a premium bike on this entry-level dually.

Numbers wise the Stance sits somewhere between the

Anthem and Trance. With a 68-degree head angle, you'd expect the steering to be a little less racy than the Anthem but not as ponderous as the Trance. Offering 120mm of travel at both ends, the suspension also splits the difference between the 100mm Anthem and the 140mm Trance. On paper it looks to be ideal for the sort of riding that the vast majority of MTB enthusiasts do—a good all-round trail bike.

## SIMPLE STANCE

While it offers a healthy amount of travel, the suspension system differs substantially from the other members of the Giant family. The Stance is the only model that doesn't employ Giant's dual-link Maestro suspension platform. Maestro





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1. Giant even thought to include cable guides for a remote adjustable height seatpost—nice!
2. Triple chainrings may be out of vogue but they extract a wide gear range from the nine-speed rear cassette.
3. At 740mm wide the Stance bars provide good control on rugged trails, although a shorter stem would better complement this setup.

uses two short links to control the path of the swing-arm; it's a setup that requires tight tolerances, quite a few moving parts and more elaborate manufacturing processes to get it right. To reign in the price, the Stance uses a very simple single pivot design.

Now there's absolutely nothing wrong with a single pivot bike and we've ridden some great ones. It really comes down to getting that single main swing-arm pivot in the right spot to gain the performance characteristics that the designer is chasing.

In this case, Giant has placed the main pivot fairly low on the frame and just forward of the bottom bracket. Rather than putting extra pivots near the rear dropouts, the seat and

chainstays are one piece. They are designed to flex slightly throughout the suspension travel—Giant has dubbed it the 'FlexPoint'. In addition to reducing mechanical complexity, it also serves to keep the price down and makes the frame lighter.

Speaking of weight, the Stance frame is impressively light. Our large sample came in at 2,605g; that's lighter than some rather expensive carbon fibre suspension frames that we've had on the scales—frames that cost a good deal more than the complete Stance 2 bike!

### ALLOY ARTISTRY

At this price, simplistically shaped heavy gauge tubes would be entirely passable

but the Stance offers much more. The aluminium construction is first rate and level of workmanship seems comparable to their more expensive models. The down tube is signature Giant; it's a big boxy rectangle that's curved at both ends, and it has the trademark ping of a thin-walled butted alloy tube. The main pivot uses an oversized alloy axle that doubles as the lower shock mount to save weight and complexity—just like their Maestro bikes. You'll also find cable guides underneath the top tube, which makes fitting a remote equipped dropper post a straightforward task.

An aluminium frame that uses built-in flex to account for suspension travel would

typically raise some concerns about the potential fatigue life, but Giant knows a thing or two about aluminium. Unlike most brands they actually do their own manufacturing; right down to the smelting and extrusion of the raw tubes. This gives them absolute control over their materials. With this in mind, you can rest assured that the swing-arm will be engineered from the ground up to last for a very, very long time.

Hydroforming is also one of Giant's trademarks, and is used across every tube on the front triangle. The seat tube hides in the background but is worth checking out. Between the top tube and bottom bracket it takes two curves whilst changing shape and diameter almost constantly, all the



while incorporating the main suspension pivot and handling the forces generated by the rocker link. The Stance packs a lot of frame for very little coin.

The frame is truly impressive for a price-point bike, but you can't just ride a frame (although it is the most important part). The package is completed with a basic selection of house-branded alloy parts. Measuring 740mm across, the Giant Connect alloy riser bar is wide enough for aggressive trail riding—it even has a sticker that states; 'This is specifically designed for off-road use and competition.' A neat change from the norm!

Some may consider the 90mm stem to be on the long side when combined with the widish bars but swapping to something shorter should be easy enough at the time of purchase. The Connect saddle is the only part of the Stance that looks like a recreational bike; it's big, wide and cushy. Great for cruising along the fire trail, but a bit bulky when the speed and action heats up.

Wheels are a simple affair, comprised of double walled alloy rims, stainless steel spokes and sealed hubs. They're a hefty set of hoops and tubeless compatibility isn't really on the radar at this price-point but we can't see them presenting any durability issues.

The Stance relies almost entirely on Shimano's new Alivio groupset. The styling is brilliant and the rear derailleur looks a lot like a more expensive unit. Unfortunately

there is no clutch mechanism, so the chain tends to flap about when the going gets rough and you're more likely to suffer dropped chain.

Gearshifts are positive if a little tinny, but the performance is great given the price-point. The Alivio shifting is broken up by FSA cranks and a KMC chain. Wisely, the FSA cranks hold three chainrings. Running

a triple provides a wider gear spread and compensates for the narrower range offered by the nine-speed 11-34 Alivio cassette—something the legs will appreciate when you're tired and the hills get steep.

Once bedded in, the stopping performance of the 300-series Shimano hydraulic brakes is extremely impressive. The long levers offer loads of mechanical advantage, and a single digit on the end is all you need to extract tons of stopping power—they're possibly the highlight of the entire component set.

So the Stance features a light, well made frame with a component set that will get the job done—great brakes, good shifting and a wide spread of gears. But how does it all come together as a package and what is it like to ride? There are two remaining components that influence the on-trail performance; the RockShox fork and rear shock.

## STEADY AS SHE GOES

The air sprung and oil damped Monarch R rear shock is a great inclusion; as a brand name shock, servicing and spares are readily available. The only thing it lacks is an external adjustment for the

**"MAINTAIN A STEADY SPIN IN THE GRANNY RING AND YOU'LL CREST THE CLIMBS WITH MINIMAL FUSS—SLOW AND STEADY IS THE BEST WAY UP ON THE STANCE."**

compression damping—again this is understandable given the entry-level status.

With no pedal platform settings or lockout levers, the pedalling efficiency of the Stance hinges heavily on its suspension design. Some bikes use drivetrain forces to firm up the suspension when you pedal hard—a trait generally referred to as anti-squat. When

compared to their Maestro bikes, the FlexPoint system displays much less anti-squat. It's a plush and active rear end that provides a smooth ride but it's also quite mushy when pedalling. The rear end sinks down under hard seated pedalling and sucks your power away if you stand and crank on the pedals. This trait is less apparent in the granny ring but it's best to remain seated and smooth on the pedals when you're using the two larger chainrings.

Up front the RockShox 30 Gold fork is the total opposite. It rides high in its travel and feels quite firm. The action is admirably smooth for a budget fork, but even when run with half the recommended air pressure for my body weight it still rode high and wouldn't get full travel. It does have a crown mounted lockout lever but in this case it doesn't need one.

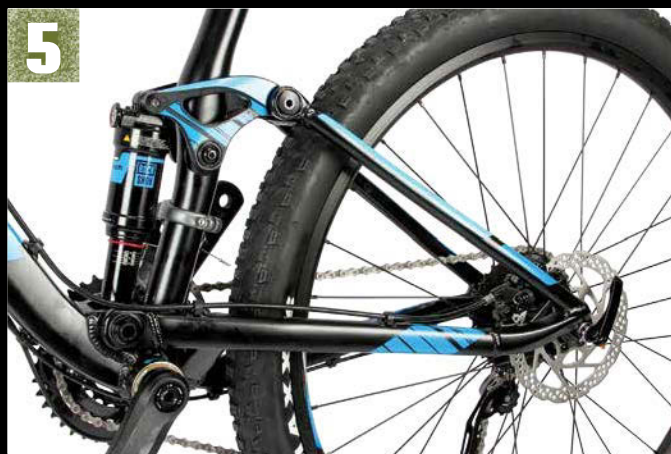
The firm and high-riding fork clashes with the pillowy rear

end to create an unbalanced ride—the contrast in feel is quite stark. Despite this mismatch, the Stance still performs well in certain situations.

It takes rough high-speed descents in its stride. The bigger hits get the fork moving while the rear wheel follows and just ploughs through the trail. It was a total hoot, delivering a smooth and stable ride. On slower singletracks things started to feel a bit odd; the bars stay high in the corners whilst the rear end sits down and stays down as you apply the power and pedal back up to speed.

There's oodles of rear wheel traction for technical climbs but laying on the torque to pop the front wheel up an obstacle makes the back end squat, so you need to be attentive with your weight shifts or risk getting bounced off course. Maintain a steady spin in the granny ring and you'll crest the climbs with minimal fuss—slow and steady is the best way up on the Stance.

Overall, the geometry takes the middle ground and does so







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4. Look Ma, no pivot—Giant saves weight and complexity by relying on built-in flex through the seat and chainstays.
5. No rear pivot and the lower shock mount shares the same mounting point as the swing-arm—it really is a clean and simple design.
6. 'This bicycle is specifically designed for off-road use and competition.' Nice one Giant!
7. As we've come to expect, the welds and workmanship were first-rate on the Stance.
8. While it's great to see a Monarch shock on a bike in this price bracket, the Stance would really benefit from a firmer platform mode to spruce up the pedalling efficiency.

nicely. In this regard it's pretty close to the Anthem SX—a bike that Giant pitches as a trail riding XC bike. Like the Anthem SX, it can do most things that you'd want with relative confidence. Yes, there's some extra flex in the fork with its old school quick release axle, the basic spec level takes total weight over 14kg once you've bolted the pedals on and the pedalling performance is far from inspiring. But when it comes down to it, the Stance is way more capable and fun than a hardtail on rougher trails, and price wise that's what it's competing against.

## POTENTIAL VS PRACTICALITY

In years passed the dilemma with entry level dually was that the parts, especially the brakes and shocks, were likely to clap out quickly and find themselves in the bin. That's not the case with the Stance; everything is serviceable and relatively well made. The frame itself is a standout; the build quality is such that it wouldn't be out of place on a far more

expensive bike. In fact, the Stance 2 would do really well with a few select upgrades.

A rear shock with an externally adjustable platform mode would mask the lack of anti-squat and spruce up the pedalling performance. With the 2.6kg frame, there's potential to get the total weight down to a very healthy figure. But at the end of the day these upgrades all cost money; travel this path and you'll soon sink more money into the bike than you actually paid for it. Spend \$500-600 more from the outset and you'll get an entry-level Anthem or Trance. With Maestro suspension, 10-speed drivetrains and superior forks they are a better long-term prospect if the mountain biking bug really bites.

So take the Stance for what it is; a genuinely off-road worthy dually that'll get you into the sport without breaking the bank and without beating you up like a hardtail would. I only wish that entry-level bikes were this good when I was first bitten by the mountain bike bug! **MBA**

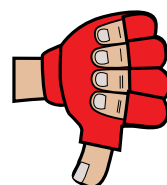
## Specifications

Frame	ALUXX-Grade Aluminium
Shock	RockShox Monarch R 120mm travel
Fork	RockShox 30 Gold TK 120mm travel
Headset	Giant tapered sealed bearing
Handlebars	Giant Connect TR Alloy 740mm
Stem	Giant Sport Alloy
Shifter	Shimano Alivio
Front Derailleur	Shimano Alivio
Rear Derailleur	Shimano Alivio
Cassette	Shimano HG20 11/34 9-speed
Chain	KMC X9
Cranks	FSA Comet 22/30/40
Bottom Bracket	FSA Press Fit
Pedals	N/A
Brakes	Shimano M355 hydraulic disc
Rims	Giant Alloy Double Wall
Hubs	Giant Alloy cassette style
Spokes	Black stainless steel
Tyres	Maxxis Ardent 2.25
Saddle	Giant Connect
Seatpost	Giant Sport Alloy
Weight	13.91kg without pedals (Large frame 2,605g)
Available Sizes	XS, S, M, L (tested) & XL
Price	\$1,699
Distributor	Giant Bicycles Australia <a href="http://www.giant-bicycles.com">www.giant-bicycles.com</a>



## THUMBS UP

- Light, well made frame
- Excellent all-round geometry
- Great brakes



## THUMBS DOWN

- Unbalanced suspension performance
- Poor pedalling response
- Expensive upgrade path





## Breezer Thunder Pro

**Breezer built their name making classic steel hardtails and these roots remain apparent in the Thunder Pro.**

**L**ast year we featured the Breezer Repack; a burly 160mm travel, 27.5 inch wheeled trail bike. Also on the dual suspension side they also have the 120mm travel Supercell 29er, which uses the same unique 'M-Link' suspension system. At the opposite end of the spectrum is the Thunder; a range of alloy 29er hardtails.

From this line we've been riding the Thunder Pro—at \$2,199 it's their top-end alloy hardtail.

Let's start with a brief history lesson for those who haven't encountered the brand before. Joe Breeze (Mr Breezer) was one of the original Mt Tamalpais crew from California. His peers included names such as Tom Ritchey and Gary Fisher. Between Joe and his riding mates the 'klunker' was born, and the rest as they, is history.

Along the way the Breezer brand became part of the

Advanced Sports International (ASI) family, which includes Fuji, Kestrel and SE Bikes. Despite this, Joe is still very much involved with the brand that bears his name and they've stuck to their roots in many ways. They still produce steel bikes and these classic hardtails actually sit above their alloy brethren—the slender steel framed Lightning stands as their flagship model for 2015.

While steel remains real for Breezer, there's no denying that our alloy Thunder Pro is going to appeal to a broader audience.





Alloy frames can be light, strong and feature packed at a more affordable price-point. It also faces a very competitive market; almost every brand has a number of alloy hardtails to choose from, so Breezer really needs to get it right with the Thunder Pro.

### BREEZER SPIRIT

The Thunder falls under Breezer's 'race' category, which offers some clue of to what to expect. They've opted for a press-fit bottom bracket and direct mount headset bearings but there's nothing overly burly about the Thunder. Both wheels mount via traditional quick release axles; a noteworthy contrast to most similarly priced hardtails, which almost exclusively run a 15mm thru-axle fork and often feature a 142x12mm rear axle too.

There's no provision for running a dropper post and the skinny 27.2mm seatpost size limits your choice if you did want to fit one.

It also seems to have skipped the modern trend of oversizing everything and compared to most, the Thunder appears to have been on a pretty major diet. The top tube is as skinny as you're likely to find on an alloy bike; at just over 35mm diameter it's in line with the size of modern steel tubes. The down tube is the most generously sized but still not gargantuan. It's a flattened pyramid shape that's reminiscent of the tube profiles found on some high-end steel frames.

Personally, my favourite touch was the tapered head tube which is as narrow as possible and flares like a bell near the bottom to capture the oversized lower bearing. It's elegant and minimalist, a real salute to the steel Breezer frames of the past and certainly the loveliest head tube I've seen on an alloy hardtail.

Simplicity is the mantra here. The down tube is beefy enough to support the head tube without extra gusseting and the top tube has been ovalised to create a strong junction at the seat tube. There are some curves but all are subtle. The seat stays and chainstays form the most basically shaped set that we've seen in a while. Round tubes rule here and there's no crazy flattening or kinking. Breezer completely avoids internal cable routing—another nod to simplicity that bike mechanics everywhere will appreciate.

On the scales our large Thunder frame came in just under 1,800g, which is mid-pack for an alloy hardtail. The balance of the parts brings it up to 12.58kg without pedals. While the bare frame weight is respectable, the complete bike is a bit heavier than most comparably priced hardtails that we've reviewed. There's no single culprit to wave a finger at here; all of the components are reassuringly stout and there's some comfort in knowing that



1



2



3

1. The SLX shifters fit directly to the brake levers via i-Spec mounts for a tidier handlebar setup.
2. This bike eats up long distance rides, so we were thankful for the well-padded and comfortable WTB saddle.
3. For the most part the frame follows old-school lines but the Thunder does break from traditional by using an easier to manufacture press-fit bottom bracket.



out of the box, the Pro should take a beating and come back asking for more. Of course it also means there's no shortage of targets to aim at when upgrade-itis bites.

While there may be a few extra grams in the build, it was nice to see some decent rolling stock on the Thunder. The WTB i19 rims are laced with 32 conventional J-bend spokes to a Shimano SLX rear hub while the front hub is a house brand unit. The i19 rims feature a proper tubeless internal profile, so all you'll need for a tube-free conversion is adhesive rim tape, a couple of valve stems and some sealant. The only downer is that the front hub cannot be converted to 15mm thru-axle, so any future fork upgrade would necessitate a new hub and wheel rebuild, or a new wheel.

The stock WTB Nine Line tyres stand tall and narrow. While the tyre casing has some girth, the tread seems comparatively narrow for a 2.25 inch tyre. With tightly spaced tread on top, they roll quickly and smoothly, even at lower pressures. This tyre and rim combo helps the Pro to keep its composure through fast and choppy sections of trail, although fast loose corners quickly expose the Nine Line's lack of aggressive cornering knobs. It's definitely a tread best suited to long rides or races on buff singletrack and fire road. The handlebar lockout on the Recon fork is perfect in these situations too.

The lack of a thru-axle may compromise the front end rigidity when compared to most of the Pro's competition, but the well-made frame and sturdy (but weighty) Oval bar/stem combo helps things to stay reasonably on track.

Shimano's Deore level brakes offer bucket loads of modulation, although the

resin pad compound doesn't deliver the power of Shimano's higher spec models. The non-clutch XT rear derailleur allows the chain to flap about over bumps—the noise is immediately noticeable if you've come off of a bike that runs a clutch rear derailleur. It's a shame the Pro didn't come with a clutch type SLX derailleur instead, as the performance of the SLX group is more than passable!

## MILE MUNCHER

I was riding along thinking about the Nine Line treads on the Pro and how they compared with a tyre that I've spent a lot of time on; the WTB Nano. Both roll really well, have a good sized bag, and feature useful but minimal tread patterns. The Nano is a perennial favourite with riders in the for the Tour Divide – a 4,418km point to point event in the US – and I realised that the Thunder Pro would also be a great machine for an adventure like this. The frame is simple and avoids internal routing and proprietary axle standards. There will never be an issue working on or getting parts for this beast, but it's the ride quality that seals the deal.

The Breezer's geometry is ideal for long days on the dirt. The rear end is shortish

**"IT TAKES A LOT OF NOISE OUT OF THE TRAIL AND IT DOESN'T BOOT YOU IN THE BEHIND WHEN YOU'RE TUMBLING AND TOSSING THROUGH A ROCK GARDEN."**

(439mm) and the head angle is mid-pack at 71 degrees; neither super-fast or boringly slow. In tandem with the roomy 615mm effective top tube length and decent standover clearance, the Pro doesn't tend to favour any

particular facet of riding over another. At 305mm the bottom bracket is low enough to deliver good cornering stability, and

being a hardtail this height remains relatively constant, so it's not a chronic pedal basher when things turn rocky.

On the trail it has to be one of the most neutral

machines getting around. Initially I swapped the grips for something a bit softer and converted the tyres to tubeless, but these tweaks had me happy from the first ride onwards—I didn't feel like I needed to change anything from there on. I would have been happy to strap on a number plate and

roll out with the next start wave of any marathon race.

The neutrality of the ride has you into a groove pretty quickly and I felt right at home in no time at all. Confidence builds with each set of corners and the kilometres tick by with ease once you hit the fire road. Riders that tend to get a song stuck in their head, only to awake from their internal concert hours and hours later will befriend the easy-going character of the Pro.

The lack of thru-axles and atypically skinny frame provide a darn smooth ride. It takes a lot of noise out of the trail and it doesn't boot you in the behind when you're tumbling and tossing through a rock garden. The WTB saddle is nicely cushioned, and as noted previously there is a nice amount of buoyancy in the



4



5





4. Most hardtails in this price bracket will run a more secure 15mm thru-axle setup, so it's odd that the Thunder misses out.
5. Following tradition; the dropouts feature typical Breezer styling.
6. The tapered head tube has a slender hourglass profile with direct mounted headset bearings.
7. Tubeless ready rims are a great inclusion and the WTB tyres are a good match for the character of this bike.
8. We'd prefer a clutch equipped SLX derailleur rather than the non-clutch XT unit that the bike came with.



## Specifications

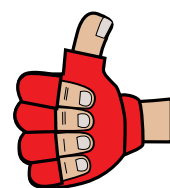
Frame	Butted and Hydroformed 6066 Alloy
Fork	RockShox Recon Gold 100mm travel
Headset	FSA Orbit sealed bearing
Handlebars	Oval Concepts Alloy 710mm
Stem	Oval Concepts Forged Alloy
Shifter	Shimano SLX iSpec
Front Derailleur	Shimano SLX
Rear Derailleur	Shimano XT
Cassette	Shimano HG50 11/36 10-speed
Chain	KMC X10
Cranks	Shimano SLX 24/38
Bottom Bracket	Shimano
Pedals	N/A
Brakes	Shimano Deore
Rims	WTB ST i19
Hubs	SLX rear / Breezer front
Spokes	Black Stainless Steel
Tyres	WTB
Saddle	WTB Volt
Seatpost	Oval Concepts Alloy
Weight	12.58kg without pedals (Large frame 1,787g)
Available Sizes	XS, S, M, L (tested) & XL
Price	\$2,199
Distributor	Oceania Bicycles (03) 9799 4144 www.breezerbikes.com

tyres too. Fitting a nice carbon bar would put the Pro amongst the comfiest of comfy hardtails, irrespective of frame material.

The trade-off for the Pro's supple performance is its overall rigidity when the heat is really on. Out of the saddle efforts aren't a problem but it does give up a reasonable amount of deflection when ploughing through sequential mid-to-large size hits or when pushed through a choppy corner. Riders who like to lean the bike hard into the turns will find the Thunder a little vague. The easy going ride quality lets you build speed with ease but when you're giving it 80-100% effort, the bike seems to reach its limits. Ease off a touch and the Thunder will settle back into its smooth gliding sweet-spot.

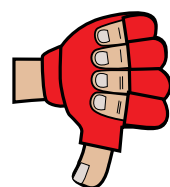
Steel framed bikes have a certain intangible 'twang' and

can be very smooth to ride. Similar to the Thunder, they're often a little lacking in front-to-back rigidity, but riders typically swoon over their trail taming qualities rather than dwell on their perceived shortcomings. There's no reason why we shouldn't approach the Thunder with the same tinted glasses on. This machine approaches almost everything that an XC hardtail could be expected to take on with a degree of composure that keeps you relaxed and allows you to simply enjoy the ride. It's not a bike for the pinners, but more so for the zoners. Plug in your favourite tune, slap it on repeat and turn the pedals. The Thunder won't drown out the beat; it's a quiet achiever—just make sure you get home in time for dinner! **MBA**



### THUMBS UP

- Neutral handling
- Supple ride quality
- Easy to maintain



### THUMBS DOWN

- Wanting for rigidity in heated situations
- Weighty parts spec
- Noisy rear derailleur



# Roll on Up!

**Rock faces present an intimidating obstacle when you're on the trail but with the correct approach you'll be surprised by what you can tackle.**

## STEP 1

Your approach to a steep rock face is one of the keys to the success. It may go against your instincts but it's best to have a bit of momentum on your side—easier said than done but a level of commitment is required if you're going to succeed. The bigger the up-slope, the more momentum you'll want to have. Smaller roll-ups may be approached at a fast jogging pace, bigger ones at running speed. You should be standing on the pedals with your arms relaxed and elbows bent—commonly referred to as the attack position. Pick your line at this point. In most cases it's best to approach at 90-degrees to the upward slope. Taking a diagonal line may lessen the gradient but you're more likely to lose traction and slide sideways.



## STEP 2

This is the point that many will be fearful of—impacting the step. Unless you're faced with a sizable vertical or overhung rock face, there's no need to lift the front wheel. It doesn't take too much – small rock at the base for example – to bump transition your front wheel upwards and onto the rock face. So don't direct your energy into attempting to lift the front wheel—this can actually be counterproductive. Instead, let your relaxed upper body and arms to absorb the bump. Allow the bars to come up towards you as suck up the initial impact; you'll maintain more of your momentum for the following stage and be less likely to get bumped off-line.







### STEP 3

So you've sucked up the front wheel impact bending your arms. As a result your torso has shifted forwards. This is perfect as you need to have your weight forward on the bike at this stage. If you still had your weight back, there'd be no pressure on the front end and you'd either send the bike skyward or lose directional control. Standing with your weight forwards serves the dual role of unweighting the back wheel. Doing so will allow that wheel to make the transition onto the upslope with minimal energy loss—it's a win-win move!



### STEP 4

By this stage you've probably burnt off the all of your stored momentum and will need to get some power down through the drivetrain. Last thing you want is to stall at this point and pull some awkward rearward acrobatic move off the top! As you begin to pedal, transfer your weight rearwards to drive the tyre into the ground and maximise traction. Pulling up on the bars while driving hard through your pedals will assist and once the rear wheel is fully clear, you can resume a seated position and ride merrily off. As with any skill, start on smaller less intimidating rock roll-ups. Where possible, look for obstacles with an easy approach and exit; this minimises distraction and lets you focus on the one specific skill. **MBB**



# Project Winter Bike

Winter on the way, so there's a fair chance you'll be seeing some extra mud. Some trails shouldn't be ridden in the wet but in most cases, vehicular access tracks aren't going to be damaged by a few MTB tyre tracks—your bike on the other hand can cop a hiding. Here are some tips to help you and your bike survive.



- Slippery throttle-like handlebar grips are dangerous. Either glue and wire your grips in place or better still, get some lock-on grips.
- Fork fenders and frame mounted 'crud catchers' do a good job of keeping your face and vision mud free—the fork mounted guards also help to keep the muck off your fork seals.
- After each ride, wipe down the inner legs/shock shaft with a clean damp rag. Once clean and dry, spray the inners with a suspension lubricant and cycle it a few times to get the seals moving freely. Be extra careful to ensure that none of the lube goes on your disc brakes (place a plastic bag over the rotor if you like).
- Brake pad and rotor wear accelerates rapidly in the wet, so you should inspect them regularly. Make sure you use disc brake cleaner on the rotors after each bike wash and remove any dirt or contaminants.
- Set yourself up with a bike care kit; degreaser, cleaner, a brush, bucket and sponge. Wash your bike after each muddy ride—it'll only take five minutes if you've got the gear on hand. If you're going to use a high pressure hose, take extra care not to point it at any bearings or suspension seals.
- Choose a wet lube for wet conditions—makes sense doesn't it! Yes it's more likely to attract dirt but it's better than riding with a squeaky fast-wearing chain.
- Give your clipless pedals a good clean and drip some chain lube into the springs and any external moving parts—it may just save you from an embarrassing 'spud crash' on the trails.
- Moisture can build up in the bottom bracket, leading to creaky noises and reduced bearing life. Intermittently remove and service your bottom bracket (this mightn't be viable if your frame runs a press-fit system).
- Wipe your drivetrain clean after every ride. A bit of degreaser on a rag will help to loosen any crud build up on the cogs. If you want the ultimate winter bike setup, rig yourself up a single speed or a Rohloff hub gear equipped bike (belt driven bikes are also great in the mud).
- Relatively narrow tyres with widely spaced tread blocks less prone to clogging with mud and offer better traction as a result.
- If you're running gears, use a full-length outer housing to improve the lifespan of your gear cables.
- Not really an essential item but frequent wet weather riders may choose to run a rear fender. Examples like this one from Klickfix are more likely to work, as the smaller saddle mounted ones don't help when you're off the seat.
- Remove the seatpost once a month to give it a wipe clean. Apply some grease when you refit it to prevent seizing. **MBA**



# Events calendar



## APRIL

**11-12 Rollercoaster Gravity Enduro #3**  
Also includes RedAss Downhill  
Thredbo, NSW  
rockytrailentertainment.com

**12 Singletrack Mind Series #1**  
Multi-lap XC event over four or seven hours with teams or solo options.  
Wylde MTB Park, NSW  
www.chocolatefoot.com.au

**12 Wombat 100**  
MTB marathon with 25, 50, 75 and 100km options  
National XCM Series Round #2  
Woodend, Vic  
www.wombat100.com.au

**18 Shimano MTB Grand Prix #2 & Evocities MTB Series**  
Multi-lap XC event over four or seven hours with teams or solo options.  
Awaba, NSW  
rockytrailentertainment.com

**21 The Giant Odyssey**  
MTB marathon with 15, 50 and 100 options  
Forrest, Vic

**26 Golden Triangle Epic**  
MTB marathon with 15, 50, 100 and 160km options  
Bendigo, Vic  
goldentriangleepic.com

## MAY

**2 Convict 100**  
MTB marathon with 44, 68 and 100km options  
National XCM Series Round #3  
St Albans, NSW  
www.wombat100.com.au

**3 Cycle for Cancer**  
Multi-lap XC event over five hours with teams or solo options.  
Fitzroy Falls, NSW.  
www.everydayhero.com.au/event/cycleforcancer2015

**17 Rock & Road**  
New format that combines both road and MTB disciplines into one event. Either teams or solo entries available  
Rydal, NSW  
www.wildhorizons.com.au

**12 Singletrack Mind Series #2**  
Multi-lap XC event over four or seven hours with teams or solo options.  
Wingello, NSW  
www.chocolatefoot.com.au

**17-21 Gibb Challenge**  
Multi-day 700km team's charity event from Derby to El Questro Wilderness Park  
Kimberly region, Western Australia  
thegibbchallenge.com.au

**28-30 Port to Port MTB**  
Four day marathon starting at Nelsons Bay, NSW.  
www.porttoportmtb.com

**31 Evocities MTB Series**  
Multi-lap XC event over four or six hours.  
Bathurst, NSW  
www.evocitiesmtb.com

## JUNE

**7 Good Times Gravity Enduro Series #1**  
Mogo State Forest, NSW  
www.chocolatefoot.com.au

**21 JetBlack NSW Schools XC Championship**

**21 Evocities MTB Series**  
Multi-lap XC event over six hours.  
Albury, NSW  
www.evocitiesmtb.com

## JULY

**5 Rollercoaster Gravity Enduro #4**  
Kempsy, NSW  
rockytrailentertainment.com

**11 Jetblack 12 Hour**  
Multi-lap XC endurance event with solo and teams options.  
James Estate Winery, NSW  
rockytrailentertainment.com

**19 Evocities MTB Series**  
Multi-lap XC event over 300-minutes of racing.  
Dubbo, NSW  
www.evocitiesmtb.com

**20 Shimano MTB Grand Prix #3**  
Multi-lap XC event over four or seven hours with teams or solo options.  
Ourimbah, NSW  
rockytrailentertainment.com

**25-26 Three Ring Circus**  
Two part marathon with a 20km night event on the Saturday and 50km on the Sunday.  
Wingello, NSW  
www.wildhorizons.com.au

## AUGUST

**2 Rollercoaster Gravity Enduro #5**  
Stromlo, ACT  
rockytrailentertainment.com

**8 Evocities MTB Series**  
Stan's NoTubes Multi-lap XC event over five hours.  
Tamworth, NSW  
evocitiesmtb.com

**8 Shimano MTB Grand Prix #4**  
Multi-lap XC event over four or seven hours with teams or solo options.  
Stromlo, ACT  
rockytrailentertainment.com

**16 Tableland Cycle Sports Elev8XCM**  
XC Endurance event  
Atherton, Qld  
http://elev8xcm.tablelandcyclesports.com

**20-23 The Redback**  
Four day, six stage XC event  
Alice Springs, NT  
www.rapidascent.com.au

**30 Singletrack Mind Series #3**  
Multi-lap XC event over four or seven hours with teams or solo options.  
Nowra, NSW  
www.chocolatefoot.com.au

## SEPTEMBER

**5 Dwellingup 100**  
MTB marathon with 14, 40 and 100km options  
National XCM Series Round #4  
Dwellingup, WA  
www.dwellingup100.com.au

**6 Evocities MTB Series**  
Multi-lap XC event over six hours.  
Wagga Wagga, NSW  
www.evocitiesmtb.com

**12 Shimano MTB Grand Prix #5**  
Multi-lap XC event over four or seven hours.  
Mt Annan, NSW  
rockytrailentertainment.com



## Winner!



### BRAD SAW

This entry from Brad Saw comes with quite a tale. Brad is 50, lives in Brisbane and has been mountain biking since the late '90s. Here's what Brad had to say about his duo...

"Ten years separates these bikes and I can remember you reviewing my first bike – a Fisher Cake – back in 2004. Ironically, you just reviewed my new bike in the last issue!

My original Fisher Cake suffered a cracked swing arm back in 2006, and I must say that Trek did a first class job in honouring their warranty. Now, 10 years on and the swing arm has cracked again and guess what? Even after all that time they are replacing the frame. With all the changes over the years, they've even chipped in with the necessary conversion elements; a modern fork with a tapered steerer, the rear shock, thru-axle etc.

So the new bike is a Trek Fuel EX 9.8. Coming from a 26-inch bike I opted for a 27.5 inch version of the Fuel. I got to test ride both wheel sizes and the 29er felt like a tractor to me. I like being able to fling my bike around and feel I made the right choice with the 27.5 Fuel.

My new bike feels nice and stiff, and I love the larger thru-axles (the Cake had old style 9mm quick release). The rear suspension is fantastic; 10 years has made a difference. Wide bars are interesting though. I noted in your Fuel EX review you would have liked to put even wider bars on! My bars on the old Cake are narrower again and the new ones will take some getting used to.

As for dropper seatposts; call me a traditionalist but if you can't ride a trail without dropping your seat, then you need to learn how to ride properly. Granted I've had some classic falls and broken bones, but I learnt quickly! I swapped the dropper out for an old fashioned seatpost.

In summary, a lot has changed and a lot has stayed the same over ten years. I enjoy riding both bikes, perhaps the new bike just a little more..."

Awesome tale Brad, you'd have to be stoked with the warranty update after all those years and the Fuel EX is a great bike to ride. Thanks for sharing your tale!

### DAVID FORD

David Ford bought his Cannondale Super V 700SL as a new bike in 1998. Over the years he has updated most of the components. First up he swapped the stock Fox Vanilla coil for a Fox Float air shock. While the bike came with rim brakes, it also had disc tabs, so hydraulic brakes was the next upgrade. Later a 140mm travel Fox Talas fork replaced the 90mm travel Headshok. David says that these changes totally altered the character of the bike and made it a 'real weapon'. Since then he's fitted a pair of Shimano XT wheels to drop

some weight and provide tubeless compatibility.

Other bits include a Thomson Elite seatpost, Easton EA50 riser bars, Crank Brothers Eggbeater pedals, SRAM X.9 rear derailleur with X.0 Gripshift and WTB Weirwolf 2.3 tyres. Apparently the only original component left is the Cannondale Coda cranks. According to David, "It's still a brilliant bike and rides as capably and enjoyably as my other more modern bikes. The bright green and yellow 'Mean Team Fade' colour scheme is almost back in fashion too." Very true David!



DISCLAIMER: The Readers' Rides feature is a general interest piece. By publishing these modifications and bike set-up ideas, Mountain Biking Australia is not suggesting they are safe or in any way approved by the respective manufacturers. Most modifications will void warranties and should only be undertaken at your own risk.



## BOB GOODING

Bob Gooding wanted a bike that would handle technical riding with lots of ups and downs. He decided on this 27.5 wheeled 'rocket' from TWE in Sydney. Bought as a frameset, he added some 1,500g TWE

tubeless wheels, a SRAM XX1 drivetrain and a RockShox SID fork to create a sub-10kg dually. Bob is really happy with the end result and says that Greg at TWE was knowledgeable and great to deal with.



## CHRIS WILSON

Chris Wilson had very specific ideas of what he wanted in his dream mountain bike and couldn't find an 'off the shelf' bike that ticked all the boxes. So he set about compiling the parts and built this titanium beauty.

The frame is a Russian

custom built titanium Triton 650b hardtail. It's fitted with a 120mm travel SID XX fork, Stan's Arch EX wheels and Shimano XT running gear. Chris prefers to run flats, so he's opted for a set of Spank Spike pedals. It's certainly a nice looking bike.



## PETER BYATT

It took Peter Byatt nearly a year of trawling through forums, eBay, Gumtree and his local bike shop to complete his single speed bike project. It's all based on a KTM Myroon carbon frame. The wheels consist of Stan's rims with Hope hubs and the fork is a Manitou Tower.

The brakes are Shimano SLX while the cockpit is a mix of Syncros and Bontrager parts—a real bitsa! Interestingly Peter has fitted the XTR cranks with a Rotor Q-Ring. A spring loaded pulley is used to manage the variable chain tension created by the oval shaped Rotor ring. Simple but no doubt fast. **MBA**

# Show off your bike and win!

Riding mountain bikes is great fun – I'm sure we all agree on that – but some of us have almost as much fun in the workshop; tweaking, tuning, modifying and customising our bikes. If that sounds like you, send in some high-resolution digital photos of your bike, detailing the hop-ups and mods.

What exactly are we looking for? Your bike can be expensive or very cheap, hardtail or dually, old or spanking new; it really doesn't matter. We're after bikes with some real thought or effort behind them; it could be modifications to improve performance or just a totally unique look. It could be a weight weenie special or custom suspension tuning.

## HOW TO ENTER

E-mail your high-resolution photos through to [john@bicyclingaustralia.com](mailto:john@bicyclingaustralia.com) with 'Readers' Rides' in the subject line. Send through a number of shots if you need to illustrate the different aspects of your bike.

We can receive files of up to 6MB via e-mail, so you may need to split the images across a few e-mails if you have a number of large files to send. Alternately, you could burn the images to a disc and post them to:

**MBA Readers' Rides, PO Box 218, Port Kembla, NSW 2505**

Small, low quality digital image may not be useable, so take as much care with the camera as you would with your precious bike!

## THE PRIZE

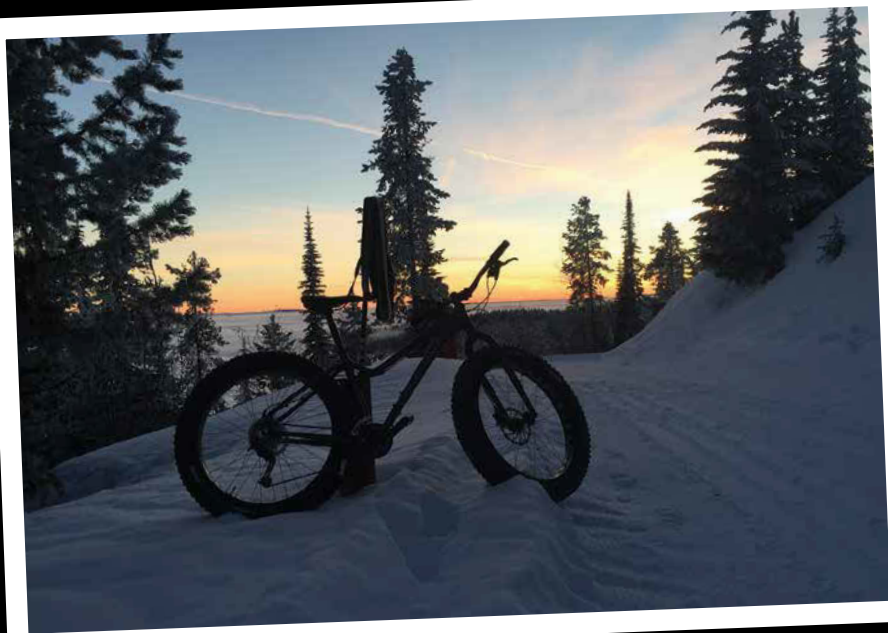
Our Readers' Rides winner receives an RJays helmet and Topeak pump package. The Pinnacle helmet features 21 vents with durable in-mould construction and a removable visor. Offered in two sizes and a range of colours, the RJays Pinnacle is valued at \$50.

The \$70 Topeak JoeBlow Mountain pump has a large diameter barrel that delivers lots of air with minimal pumping. This makes it ideal for seating tubeless tyres and MTB applications in general. The gauge is also mountain bike specific, it only goes to 75psi but this makes it easy to read at lower off-road tyre pressures.

Enter the Readers' Rides competition and you could win this great prize combo!







## Winner!

### PETER CHIN

Visiting Silver Star mountain resort in British Columbia, Peter Chin got to try his hand at real winter fatbike riding. "After a hard day's skiing, there is nothing like taking a fat bike out along the snow covered trails, riding above the clouds as the sun sets," he said. "It's zero-degrees, you're sweating and it's glorious." It certainly looks glorious in the photo Peter—thanks for contributing!

### ANTHONY BESTERFIELD

According to Anthony Besterfield, Archie is also the perfect companion mule. "He can carry a lot more than three litres of fluid and 11 litres of gear, but unfortunately he doesn't have an easy-to-fill screw top lid. Guess I need a Camelbak too?" Nice one Anthony, while we'd love to help Archie out, Peter has already nabbed the prize for this issue.



### KEVIN ACWORTH

Kevin Acworth took this photo of his mates Paddy O'Fernicha (back) and Kenny Schmidt (front) crossing a creek whilst exploring the tracks around the South Boundary trail and Mt Nebo, 15km west of Brisbane. The ride ended up being two hours long and covered a 24km loop—not bad for an exploratory ride.



### GREG KITE

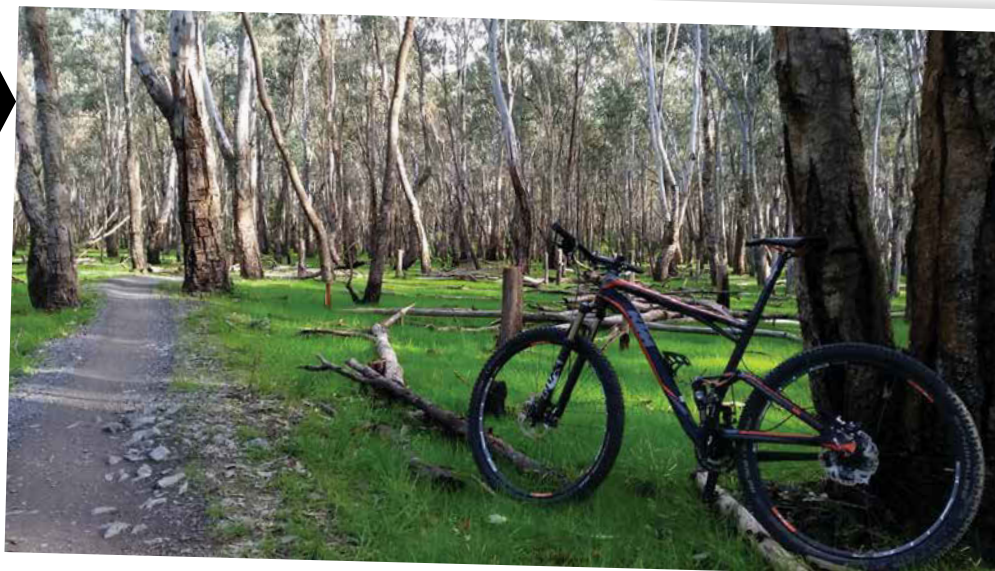
Two year old Charlie Kite about to hit the Casuarina Trail, a flatish 4km loop at the bottom of Nerang National Park on the Gold Coast, Qld. Apparently he goes okay on the flats but dad (Greg) smashes him on the climbs. Well look out Greg because Charlie is due for a bike with pedals when he turns three!





## RODNEY SCOTT

Rodney Scott took this photo while trying to find his car keys on his second lap at Lysterfield Park in Victoria. Thankfully he found them, 15km from the trail head, and he also found time to take this bike selfie...



## DAVE BROMELL

It's been 18 years since Dave Bromell ventured out on the Dinner Plain walking track to JB plain hut in Victoria. He's 54 now and it was snowing when he last visited—awesome looking spot Dave!



## STUART KING

About to head out for a pedal at Dandenong Creek in Victoria, visiting English biker Stuart King spent some time trying to assess whether the size of the sign reflected the size of the threat.



We apologise to anyone whose photo doesn't make it into these pages. We usually get a large number of entries and can't print every submission. You can also check the JetBlack website for extra photo competition entries.

## Entry details

If you think you are pretty handy with a lens, send us a copy of your best photo and you may win a Camelbak Mule valued at \$179.

The Mule is a perfect partner for all-day epics and was designed with three-hour plus rides in mind. It's able to carry three litres of fluid and up to 11 litres of gear, so you can load it up for the long haul (or just use it as a lightweight commuter pack).

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We will select the winning photo based on its quality, originality and content. You can only enter with a photo that you have taken—do not send us someone else's photo without their permission.

E-mail your high-resolution digital image to [john@bicyclingaustralia.com](mailto:john@bicyclingaustralia.com)

We can receive digital photos with a file size up to 8,000KB. Larger files can be burnt to a disc and posted to:

**MBA Photo Competition PO Box 218, Port Kembla, NSW 2505**

- Don't forget to include some information about your photo as well as your contact details—just in case you win the prize!
- Photo entries may also appear on the Bicycling Australia website in the photo gallery section.





# Roaming free

Back in 1985, after a realisation that life is not a dress-rehearsal, we decided to close down our business, stored all our crap in one room of the house and moved to Australia to go for a long drive.

**A**rmed with as much equipment as we could fit into a small two-litre van, we followed the copious notes provided by Glen's mother, who had recorded every place she knew of that offered a free camp, good water, or a sure-fire pot full of something edible. The food would have to be caught, trapped or shot, but if it was there, Opal would have noted it.

She had been around Australia several times and knew parts of it like the back of her hand. It amazed us at times in the next year and a half, rounding some turn in the middle of nowhere to find a dirt road turn-off leading to a leaking water tank where we

but this trip revolved around tides, bait and the likelihood of a free dinner. The other was a Readers Digest book on Australian National Parks. It became a route map of sorts.

The usual routine after sorting out somewhere to camp (i.e. pull the handbrake on) was to wander over to the park information centre. We'd find a map and I would sort the trails into walks, rides with Glen, and rides by myself, which could be longer and possibly gnarlier.

Access All Areas

If the topography made a walking trail appear rideable, I would try to find a ranger. Then a funny thing would happen. It is hard to imagine nowadays, but this little episode played out a dozen times... I would enter the park office, or sidle up to a ranger trying to do their job, and say

**"THE RANGER WOULD INVARIABLY LOOK DISGUSTED, SHAKE THEIR HEAD AND SAY, 'NO WAY! MOTORBIKES MUST STAY ON FORMED ROADS IN A NATIONAL PARK, AND WE DON'T ENCOURAGE THEM EVEN ON PARK ROADS.'"**

could have a shower and watch hundreds of birds coming in for a drink at sunset, just as Opal's notes had foretold.

The other two principal guiding lights on our expedition were a couple of books. One was a fishing guide. We had never fished before

hey, that trail that goes blah blah blah, do you mind if I take my bike on it?

The ranger would invariably look disgusted, shake their head and say, "No way! Motorbikes must stay on formed roads in a National Park, and we don't encourage them even on park roads."



They're noisy, startle wildlife and piss off the other visitors. Not going to happen mate."

I would then say, sorry I didn't explain. It's a push bike.

This would induce a strange mix of amusement, disbelief and a sort of irritated 'I-can-tell-this-guy-is-a-weirdo' look. The hat would be tipped back, and barely containing an urge to laugh out loud, the ranger would say, "A pushbike? Up there? Go for your life mate. Just don't ask us to go and get it when you walk back later on tonight."

And off I would go, with free rein to ride wherever I could manage. Many of the rides were sweaty, frustrating hike-a-bikes. However some were stellar adventures that I will never forget, with memories I treasure—I doubt you could get away with it these days.

I ventured off-road around the base of Uluru just before dark. Followed a trail in the Northern Territory to a spot where some poor bugger buried

most of his Spitfire in the side of a hill in WWII—the engine block and cannon were still there. And maybe the best one; a morning ride skirting along the edge of Katherine Gorge.

The very ranger who had given me permission to have a crack at the trail was driving it in a Parks department Landcruiser. They caught me at the top of the climb up to the canyon wall, but then I gapped them through a dry creek bed that we had to cross. By the time they caught me again we were in another really loose and rocky part that slowed me down, but pretty much stopped them. This process repeated itself for quite a distance, eventually and we were back on a road.

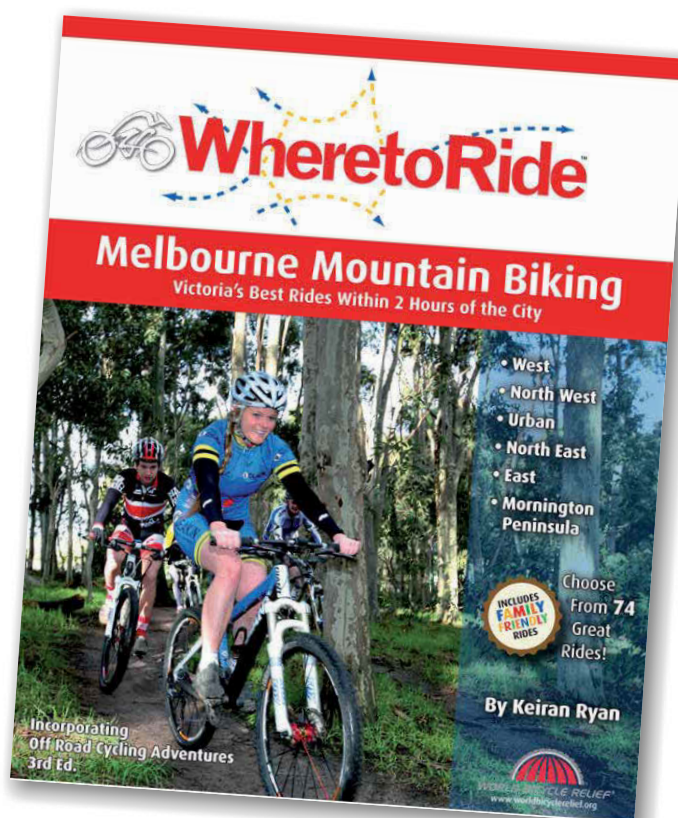
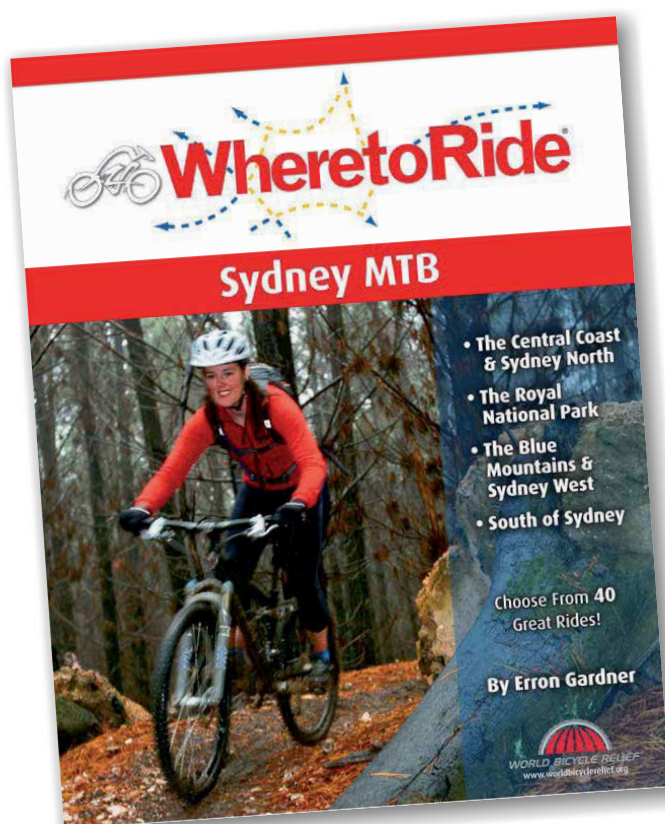
The ranger pulled alongside and said, "What do you call that thing? A mountain bike eh? Where didja get it? A bike shop! What do ya pay for one? Really? Might have to ask the boss if we can get a couple! They look like they do the job! Hooroo!"

He might not have said hooroo. But that is how I remember it. **MBA**





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**Publisher's note:**

*Fire goes out for lack of fuel, and tensions disappear  
when gossip stops.*

Proverbs 26:20

Living Translation

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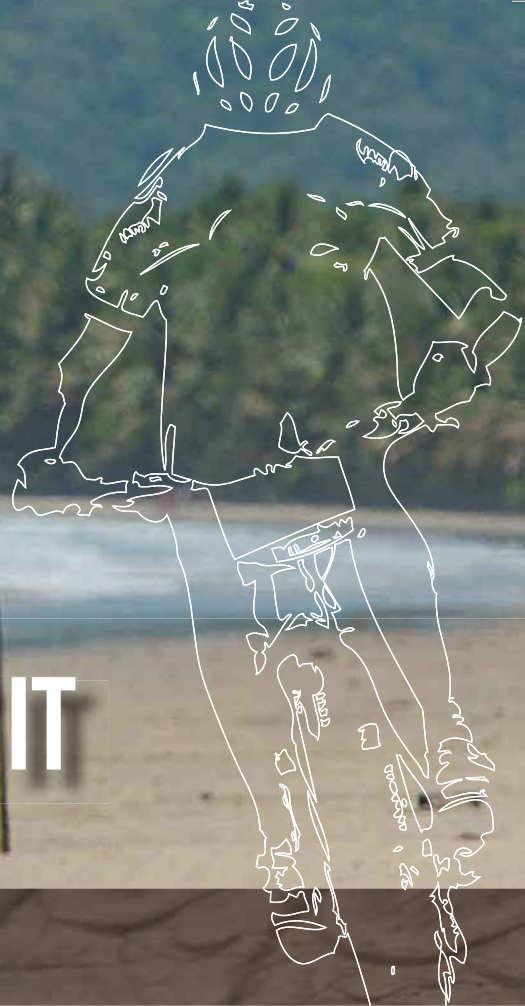
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